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Journal of the Asiatic  
Society of Bengal









JOURNAL  
OF THE  
ASIATIC SOCIETY  
OF  
✓  
BENGAL.

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EDITED BY  
THE SECRETARY AND SUB-SECRETARY.

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VOL. XIII.  
PART I.—JANUARY TO JUNE, 1844.  
Nos. 145 to 150.  
NEW SERIES.

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"It will flourish, if naturalists, chemists antiquaries, philologers, and men of science, in different parts of *Asia* will commit their observations to writing, and send them to the Asiatic Society, in Calcutta; it will languish if such communications shall be long intermitted; and will die away if they shall entirely cease."—SIR WM. JONES.

CALCUTTA:  
BISHOP'S COLLEGE PRESS.

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		The Honorable Sir H. Seton.
		H. W. Torrens, Esq.

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*Sub-Secretary, .. .. .* H. Piddington, Esq.



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Lieutenant A. Broome, B. H. A.		N. B. E. Baillie, Esq.
C. Huffnagle, Esq.		W. Grant, Esq.



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<i>partments and Museum of Economic</i>		
<i>Geology, .. .. .</i>		

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*Agent in London, .. .. .* Professor H. H. Wilson, India House.

*Agent in Paris, .. .. .* Major A. Troyer, 55, Rue de la Pepiniere.

*Booksellers and Agents in London, ..* Messrs. W. and J. Allen, Leadenhall street.





By an oversight, the list of Members of the Society intended for the present No. was published with No. CXLIV. Another is now given, and the former one may be cancelled.



## LIST OF MEMBERS

*Of the Asiatic Society of Bengal, on 1st January, 1844.*

---

Anderson, Major W.

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Hutton, Capt. T.

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Jenkins, Major F.

Jameson, Dr. W.

Karr, Esq. W. Seton

Kistnoth Roy, Bahadoor, Rajah

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Loch, Esq. G.

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Maddock, Hon'ble T. H.

McQueen, Rev. J.

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|                                       | Stephen, Capt. J. G.                  |
| Peel, Hon'ble Sir L.                  | Syud Keramut Ullee, Associate Member. |
| Pratt, Rev. J. H.                     |                                       |
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| Stacy, Lieut. Col. L. R.              | Young, Lieut. C. B.                   |
| Sanders, Lieut. Col. E.               |                                       |
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# Rules of the Asiatic Society.

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The following is an abstract of the rules of this Institution which are now in force, including those printed in the Appendix to the sixth and subsequent volumes of the Society's Transactions.

## *Original Rules adopted from the Founder's Discourse, 15th February, 1784.*

1.—The Institution shall be denominated the Asiatic Society, the bounds of its investigations will be the Geographical limits of Asia, and within these limits its enquiries will be extended to whatever is performed by man or produced by nature.

2.—Weekly Meetings shall be held for the purpose of hearing Original Papers read on such subjects as fall within the circle of the Society's enquiries.

3.—All curious and learned men shall be invited to send their Tracts to the Secretary, for which they shall immediately receive the thanks of the Society.

4.—The Society's Researches shall be published Annually, if a sufficiency of valuable materials be received.

5.—Mere Translations of considerable length shall not be admitted, except of such unpublished Essays or Treatises as may be transmitted to the Society, by Native Authors.

6.—All questions shall be decided on a Ballot, by a Majority of two-thirds, and nine Members shall be required to constitute a Board for such decisions.

7.—No new Member shall be admitted who has not expressed a voluntary desire to become so, and in that case, no other qualification shall be required, than a love of knowledge, and a zeal for the promotion of it.

## *Subsequent Resolutions of the Society which are in force.*

8.—The future Meetings of the Society shall be held on the first Wednesday of each month; at half-past Eight o'clock in the Evening.

9.—If any business should occur to require intermediate Meetings, they may be convened by the President, who may also, when necessary, appoint any other day of the week, instead of Wednesday for the stated Meetings of the Society.

10.—As it may not always be convenient for the President to attend the Meetings of the Society a certain number of Vice Presidents shall be elected annually.

11.—In case the President, and the Vice Presidents are absent at any Meeting, a quarter of an hour after the fixed time, the senior Member present shall take the Chair for the Evening.

12.—Every Member of the Society shall have the privilege of introducing as a visitor, any gentleman who is not usually resident in Calcutta.

13.—With a view to provide funds for the necessary expenses of the Society, an Admission Fee shall be established to consist of two gold mohurs, payable by every Member on his election, and each Member of the Society, resident in India (Honorary Members excepted) shall also contribute a gold mohur, quarterly, in the first week of January, April, July and October. Any Member neglecting to pay his Subscription for half a year, after it becomes due, to be considered as no longer a Member of the Society.

14.—All Members returning to India shall be called upon to pay their Subscription as usual from the date of their return.

15.—A Treasurer shall be appointed.

16.—In addition to the Secretary, an Assistant Secretary and a Librarian shall also be appointed.

17.—A Committee of Papers shall be appointed, to consist of the President, Vice Presidents, Secretary, and nine other Members to be elected annually, and any number no less than five, shall be competent to form a Committee.

18.—This Committee will select from the papers communicated to the Society, such as may appear proper for publication, and superintend the printing of the Society's Transactions.

19.—The Committee of Papers shall be authorized to draw upon the Treasurer for any sums requisite to defray the expense of publishing the Translations, and an order signed by a Majority of the Committee, will be a sufficient warrant to the Treasurer for paying the same.

20.—The Committee of Papers is authorized to defray any small contingent expenses on account of the Society which they may deem indispensable.

21.—Every Subscribing Member of the Society, on application, shall be furnished with a copy of such volumes of the Researches as may be published whilst he continues a Member, in return for his contributions, without any further payment.

22.—With a view to the more general circulation of the Asiatic Researches in India, the price of the 12th and future volumes, to Non-subscribers, shall be fixed at a gold mohur, and if several volumes of different years be purchased together, they shall be sold at 10 rupees each.

23.—The Agents of the Society in England shall be desired to purchase, and forward for the Society's Library, Books of Science and Oriental Literature, published in Europe, taking care that those purchases at no time exceed the funds arising from the sale of the Society's publications.

24.—The Committee of Papers shall be requested to furnish the Agents in Europe with such further instructions as may appear requisite for their guidance in the selection of books proper to be placed in the Library of the Society.

## **Library.**

25.—The Library is open from 10 to 4 o'clock, between which hours, the Assistant Librarian is to be in attendance every day, Sunday excepted.

26.—None but the Members of the Society are allowed to borrow Books from the Society's Library, and no book is to be lent out of Calcutta without especial permission from the Committee of Papers.

27.—Books are to be borrowed by written or personal application to the Secretary; in either case, the person applying is to furnish a written receipt specifying the name of the work, and the time for which it is borrowed, at the expiration of which he is to return the book borrowed, or renew his application for an extended loan of it.

28.—The receipts for the Books shall be filed, and a Record kept of the Books lent out, to whom, and when lent out, and when returned.

29.—A list of the Books in the Library, and a Register of those lent out, are to be kept ready for inspection.

30.—All persons borrowing Books are to be answerable for their safe return, or are expected to replace them if injured or lost.

31.—The Librarian should be authorized to call in any work which is detained beyond the time fixed by the preceding rule.

32.—All works borrowed from the Library, should be returned once a year, viz. the first of October, in order to enable the Librarian to have the most efficient control over them, and to report to the Secretary on the state of the Library.

33.—Valuable manuscripts should not be removed from the Library, and no work from the Oriental division of the Library can be borrowed by Native gentlemen, not Members of the Society without a special order of the Secretary.

34.—All books being books of general or special reference in the various branches of Natural History in the departments of the Zoological, Geological, and Mineralogical Curators, to be understood by the Librarian to be Books of reference for the use of those officers, and as such, not to be lent out of the Library.

35.—The Curators are farther to be allowed to take over for daily use, such Books as they may select for that purpose, giving the usual receipt to the Librarian.

## **Museum.**

34.—On the 2nd February 1814, the Society determined upon forming a Museum for the reception of all articles that may tend to illustrate Oriental Manners and History, or to elucidate the particulars of Nature or Art in the East. The following Resolutions were at the same time passed upon the subject.

35.—That this intention be made known to the public, and that contributions, be solicited of the undermentioned nature:—

1. Inscriptions on stone and brass.
2. Ancient Monuments, Mahomedan or Hindoo.
3. Figures of the Hindoo Deities.
4. Ancient Coins.
5. Ancient Manuscripts.
6. Instruments of War peculiar to the East.
7. Instruments of Music.
8. The vessels employed in Religious Ceremonies.
9. Implements of Native Art and Manufacture, &c. &c.
10. Animals peculiar to India, dried or preserved.
11. Skeletons, or particular bones of animals peculiar to India.
12. Birds peculiar to India, stuffed or preserved.
13. Dried Plants, Fruits, &c.
14. Mineral or Vegetable preparations in Eastern Pharmacy.
15. Ores of Metals.
16. Native alloys of Metals.
17. Minerals of every description, &c. &c. &c.

36.—That the hall on the ground floor of the Society's house be fitted up for the reception of the articles that may be procured. The plan and expenses of so doing to be regulated by the Committee of Papers and Secretary, and the person under whose superintendence the Museum may be placed.

37.—That the expense which may be incurred in preparing materials furnished in a state unfit for preservation be defrayed by the Society within a certain and fixed extent.

38.—All articles presented to the Museum shall be delivered in the first instance, to the Superintendent of the Museum, to enable him to make the acknowledgment, directed in the standing rules of the Society.

39.—A Register of Donations to the Museum, shall be exhibited each Meeting of the Society.

40.—The Committee of Papers shall adopt such means as may appear proper for making the intentions of the Society, in this respect, generally known.

41.—That the names of persons contributing to the Museum or Library of the Society, be hereafter published at the end of each volume of the Asiatic Researches.

## **Bibliotheca Asiatica.**

The following Resolutions were passed on the recommendation of the Committee of Papers, under date the 2nd July 1806, but materials have not yet been received for publishing a volume of the work therein proposed.



42.—That the Society publish from time to time as their funds will admit of it volumes distinct from the Asiatic Researches, translations of short works in the Sanscrit and other Asiatic Languages, or extracts and descriptive accounts of books of greater length in those languages, which may be offered to the Society, and appear deserving of publication.

43.—That as this publication may be expected gradually to extend to all Asiatic books of which copies may be deposited in the Library of the Society, and even to all works extant in the learned languages of Asia, the series of the volumes, be entitled *Bibliotheca Asiatica*, or a Descriptive Catalogue of Asiatic Books with extracts and translations.

### **Physical Class.**

The following Resolutions were passed on the 2nd January 1828 :—

1.—That the Physical Committee of the Asiatic Society be considered as in existence and for the same purposes as formerly, exclusively of Medicine.

2.—That all Members of the Society, be Members of the Committee.

3.—That persons not belonging to the Society, may be elected as corresponding Members of the Committee, upon the recommendation of any three Members without being liable to any charge.

4.—That the Committee elect its own Officers.

5.—That the Committee frame its own rules, subject whenever likely to interfere with the Rules of the Society, to confirmation at a General Meeting.

6.—That the proceedings of the Society, and short notices of any interest, be published from time to time, as they accumulate, in such form as may be hereafter found convenient.

7.—That Papers of any extent or permanent interest, be published in the same type and form as the Researches, so as to admit of their being bound up with them.

8.—That the expense of these publications be borne by the Society.

9.—That the Physical department of the Museum be considered under the especial charge of the Committee, Mr. Tytler undertaking the care of the Osteological Specimens and Mr. Ross of the Minerals.

### *Translation Committee, 3rd September, 1828.*

That a Committee of the Society be formed to communicate with the Committee of Translation of the Royal Asiatic Society, and carry their views into effect by procuring and transmitting such Manuscripts, Originals and Translations, as they may be able to obtain for the purpose.

That a Book be opened for Subscriptions of Ten Guineas per annum, each Subscriber; entitling him to a Copy of all the Works printed by the Translation Committee.

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*Note on the Mijjertheyn Somalees. By Lieut. C. J. CRUTTENDEN,  
Assistant Political Agent, at Aden.*

The Mijjertheyn Somalees inhabit the tract of country extending from the small port of Bunder Tegadah on the Northern coast of Seef Taweel, a flat belt of land in latitude  $6^{\circ} 30'$  N. and longitude  $48^{\circ} 4'$  E. (Owen,) on the Eastern side of Africa, where they are bounded by the Hameea tribe. The province of Murregham forms their limit to the South, and the warlike tribes of the Dulbahante and Wursungeli, mark their Western boundary.

The country, generally speaking, is composed of continuous limestone ranges, mostly running E. S. E. and W. N. W., and varying in altitude from 1,500 to 6,000 feet. In some parts, especially at Bunder Murayah, the mountains near their summits are almost entirely composed of pure white marble; they form naked sheets on which may be seen the "*luban*" or frankincense tree, growing without any visible means of nourishment, or any apparent fissure in the rock to support its roots.

maining more than three weeks in one place, and regulating their change of pasture so as to leave the table lands untouched until the end of the N. E. monsoon, or about the middle of February, by which time the grass there has become abundant, and if a moderate quantity of rain has fallen, sufficient to last them during the hot season, or about the end of November. They are on an average a mean looking race of men, not to be compared with the Somalees to the Westward, nor have their women much pretension to beauty. The men, generally speaking, are undersized, of slight but compact make, and the fatigue and privation that they will endure without repining is almost incredible. Nominally Mohammedans, hardly one in thirty can correctly repeat the prescribed formula of daily prayer, and the lucky man who has been taught to read and write, steals from hut to hut with a well-thumbed copy of the Koran slung over his shoulders in a leather bag, a huge wooden ink bottle dangling at his girdle, and a dressed goat's skin to do duty as a prayer carpet. One of these learned individuals whom we met at Tohén, was dignified with the title of "Doctor," but with what reason I could not discover.

The Bedouins live almost entirely upon milk, and prefer it to any thing else; so long as they can procure a moderate supply of this article from their flocks they rarely touch any thing else, save when they visit the coast. Rice, jowari and dates are imported in large quantities from India and Arabia, but they rarely use them until the dry season diminishes the quantity of milk. For the same reason, except during the hot season, they are unwilling to part with their flocks, and though we experienced but little difficulty in procuring a sufficient and regular supply of fresh meat, our success I imagine ought to be attributed to the magic influence of dollars instead of rice and coarse dungaree cloth, which form the common articles of barter on this coast. As the season advanced, however, even money began to fail to induce the people to sell their fat sheep and goats, and at the time that I am writing this, we have been compelled to send a man three days' journey to procure them.

The Bedouins rarely drink coffee, and their reasons are rather good. "If we drink coffee once," say they, "we shall want it again, and where are we to get it from."

This abstemiousness amongst them when dependent solely upon their own resources, vanishes as soon as a hearty meal is offered at the expense of any one else, when they will consume an immense quantity of meat, rice and *ghee*, on the prudent principle of profiting by the opportunity; and the man who sells a sheep to a traveller on a journey, always considers himself fully entitled to a share of the same.

We made frequent short excursions inland during the operations on the wreck, and we were never molested by any of these people, though I should not feel disposed to place entire confidence in them. That they are all arrant thieves we found out, certainly to our cost at our camp, where a regular system of plunder went on for a short time. They were all so miserably poor, that any thing like hospitality could hardly be looked for; but we always experienced civility from them if we approached their huts, and entered into conversation with them. A few spoonfuls of sugar to the children generally had the effect of bringing out the females of the *ghurrea*, (a place where the shepherd resides,) and in a few minutes we were the best friends in the world. On one occasion, a girl was brought who had lost her foot and ankle by the bite of a snake, and who was hopping about with the help of two sticks. On Captain Powell proposing that she should have a wooden leg, and offering to get one made, the crowd of listeners at first were lost in wonder, but when the principle and the advantages of the said wooden leg were explained, they were beyond measure delighted, and declaring that so astonishing a conception never would have entered their thick heads, they begged that the carpenter, might be set to work directly; a handsome wooden leg was accordingly made, and under the superintendence of the surgeon, strapped on properly; but what afterwards became of the young lady I never heard.

Ignorant and simple as these people are, it is not surprising that their jealousy should occasionally have been awakened when they saw a strange people, so superior in every way to themselves, wandering about their country without any apparent reason for so doing. Contented as they were with their stony mountains, they naturally felt alarmed at the preference we appeared to shew for them, and the idea that we were about to take the country, was seriously discussed.



I had returned from the Jerd Hafoon range after two or three days' stay there, and where, owing to the heavy rain, I had been compelled to take a tent, and in company with Captain Powell, was on my way to an assemblage of the chiefs at a considerable distance from our camp, when we were overtaken by a party of Bedouins, of whom one, by name Noor, was a chief of some importance at Murayah. Leaning upon his two spears, he in the first place peremptorily ordered us to halt where we were and proceed no farther, which, in-as-much-as all our baggage had gone on, we thought proper to decline. With his eyes flashing and in a towering rage, he then said, "If you are men, we also are men, and therefore it is *wajib* that we should understand each other, and now I wish to be informed by what right you have built three forts on Jerd Hafoon, and what you mean by wandering over the country as if you were the owners of it." We told him that any thing he might have to say, we should be glad to hear at the end of our day's march, and requested him to follow us, to which, after some demur, he consented. On the road, however, he made some inquiries from one of our followers, which apparently made him heartily ashamed of himself, and on our arrival at the halting place, he came into our tent at once, and said, that the Bedouins had seen my tent pitched on the Jerd Hafoon range at three different points, and taking it for a chunamed building, had reported it as such to him. We laughed at him for his folly, and became good friends again.

Though the town's-people affect to despise the Bedouins, and speak of them as a treacherous race, they form the only fighting men in the event of war. Their elders, moreover, are descended from the Sultan, and their voice has sufficient weight at a great national meeting to drown the clamours of the arrogant chiefs who reside on the coast. The name of the Sultan among the Bedouins is highly venerated, and certain customs handed down from time immemorial still exist to remind them of the respect due to the family.

A short account of the division of the country will serve to shew whence these Bedouins derive their power.

Sultan Mohamed, the last chief who governed the entire country, and whose death took place some 300 years ago, at his death divided the country equally between his three eldest sons, Othman, Esa and Omar.



To Othman was allotted the Northern portion, extending from Bunder Ghassim to Ras Hafoon. To Esa, the part between the country of Othman and the Wadi Nogal; and to Oman, the belt of country from Wadi Nogal to the province of Murreyhan.

From Esa and Omar sprung the Bedouin chiefs, whose influence I have just mentioned, whilst the posterity of Othman enjoyed the Bunders and the trade with the opposite coast. From Othman we pass through four generations, which brings us to another, Sultan Mohamed, who died 25 years ago.

The chief had had six wives and 17 sons, of whom 12 are now living. Prior to his death, he portioned out his territory amongst his children, allotting a separate village to the sons by each wife, but enjoining them to pay obedience to the authority of his eldest son, who would be his successor. Bunder Murayah became the residence of the Sultan Othman on the death of his father, and the villages of Aloolla, Feeluk, Geyseli, Gursah and Wurbah were divided between his brothers. Sultan Othman, in conjunction with a Somah merchant named Fatha Abdi, built seven or eight fortified houses at Murayah, and considerably increased the trade of the port.

He died at about the age of 50, and was succeeded by his eldest son Yusuf, who after a turbulent reign of two years, was treacherously slain by an individual of the Ali Seliman branch of the *Mijjertheyn*, inhabiting Bunder Khor. His only son, a boy of four or five years of age, being too young to be considered of much importance, was dignified with the name of Sultan, which, when he attains to manhood, his great uncles probably will not permit him to enjoy. He is under the guardianship of Noor Othman, his uncle, who has also married his mother, and who in striving to maintain the importance due to the Sultan, has succeeded in causing a bitter and irreconcilable feud with the other branches of the house of Othman.

To account for the large number of children that are frequently found in one family, it must be borne in mind, that polygamy, which to the extent of four wives is *tolerated* by the Mahomedan law, is here in a powerful chief considered indispensable. Four wives are therefore married as soon as possible after he arrives at manhood; any wife proving barren, or who has given over bearing, is at once divorced,

and another substituted. In some cases, especially when a chief has lost several children in battle, a much greater licence is allowed, and the number of wives is unlimited.

I have mentioned that Sultan Mohamed had 17 sons; but if my information is correct, he had also 19 daughters, who in accordance with eastern custom, do not "count" as part of the family.

When the Steam frigate *Memnon* was wrecked on this coast on the 1st of August last, the chiefs of Feeluk, Aloolla, and Geyseli, and from their vicinity to the scene of the disaster, were the people who profited most by plunder, &c., of which the inhabitants of Bunder Murayah could not partake, owing to their being at a greater distance. Unable to induce their greedy brethren to give them a share, they affected a virtuous spirit, and thanked God they were not robbers of strangers who had been cast away on their coast, and that had *they* only been there, not even a copper bolt would have been stolen, but most carefully preserved until the English came for it. The less scrupulous chiefs of Aloolla and the other villages, perfectly content with their rich booty, laughed to scorn the *disinterested* remonstrances of their brothers at Bunder Murayah; but to their great astonishment and chagrin, at the annual meeting that took place at Ghoraal on the Jerd Hafoon range in January last, they were severally fined by the assembled elders and chiefs of the tribe for daring to appropriate to themselves property cast on the shore by the sea, without the consent of the "Sultan's house," and this fine, which consisted of one horse each, they were obliged to pay.

The *Mijjertheyn* pride themselves upon being a peaceful nation, and are fond of speaking of their country as "*Urdel Aman*," a title which when compared with the Edoor Hebrawul and Esa Somalis, they in some measure deserve. Murder is uncommon, and the "*reesh*," or ostrich feather in the hair,\* which to the westward denotes that the wearer has killed a man, is by this tribe considered both unholy (*haram*) and unmanly. The fine for murder, if considered unprovoked, is a hundred she-camels with young, or a corresponding sum of money. Blood feuds are unfrequent; commutation by fine ge-

\*NOTE:—This coincidence in custom with the Abyssinians is one of the most striking of the many proofs of the Arab origin of the latter.—EDS.

nerally being preferred, and are carefully avoided if possible. During their debates, quarrels almost invariably arise, daggers are brandished, spears poised, and a stranger would expect an immediate conflict, but the old men generally step in and prevent the parties from injuring each other, by taking away their arms, which after a decent show of reluctance are given up with much secret satisfaction, as the necessity for fighting "*à l'outrance*" is thus avoided; their arms are two light spears, and a shield of rhinoceros or bull's hide, with a long straight double-edged dagger. Numbers of the lower class of Bedouins carry a bow and quiver of poisoned arrows, and some few are to be seen with marvellously ill-looking swords. Matchlocks being beyond their reach, they affect to despise, as cowardly, weapons that kill from a distance; that very quality, however, considerably enhanced the respect paid to our rifles and double-barrelled pistols; and one of the chiefs was so captivated with a revolving 6-barrelled pistol belonging to an officer of the *Constance*, that he offered him a horse in exchange.

Their arrows are tipped with an iron head, just below the barb of which they fasten a black glutinous substance made of the pounded bark of a tree and the white milky juice of one of the Cactus tribe, which forms a deadly poison. I made many fruitless efforts to procure a specimen of this tree, which grows chiefly in the lofty ranges of the Jibel Wursungeli.

Armed with these tiny weapons, like the Bushman of South Africa, the Bedouin posts himself in a thick bush near the haunts of the large antelope, called here the *gurnook*. A companion with a camel takes a wide circuit, looking out carefully for game, which when he sees, he contrives to drive up by degrees towards the ambush, always taking care to keep under the lee of the camel. The antelope disliking a camel, gradually retreats without being alarmed until within 20 feet of the bush, when the spin of the unerring arrow through the shoulder brings down the quarry, which dies in three minutes. In this way the Bedouins frequently provide themselves with an abundant supply of fresh meat; many of these antelopes weighing 70 and 80 pounds.

The effect of this poison on a mau is the dropping off of his hair and nails, and his speedy death. The deep excisions and sears from burning that are so common on the limbs of the men, sufficiently attest the dread in which they hold this deadly poison. The instant a

man is wounded by an arrow, the part injured is cut out with a dagger, and fire applied to the wound as soon as possible; and yet when an antelope is killed with one of these arrows, they content themselves with merely cutting away that part of the flesh to which the arrow adheres, and which on the specimen that Captain Powell and I saw, had a deep purple appearance. Marriage with the men takes place at about eighteen or twenty, and with the women at fourteen to sixteen. A young man of property wishing to marry, and not finding a wife to suit him in his neighbourhood, sends a trusty messenger to another tribe, who selects a fitting maiden, and demands her in marriage in the name of his master. If the terms are accepted, the young lady is sent to her future husband's encampment, under the escort of the messenger, and on her arrival there, is treated with all respect by the family, and her friends and relations are invited to celebrate the marriage feast, which generally lasts seven days. The sum paid to the father of the bride, frequently amounts to 150 dollars, given partly in money, and partly in kind. The bride is required to provide mats for the hut and bed, with a few wicker bowls gaily ornamented with white couries for milk. Her wedding finery, consisting of a few beads, is contributed by her friends. In the absence of the *cazee*, any person who can read the *koran*, officiates; and frequently to spare the modesty of the bride, her brother or some near male relation acts for her during the ceremony, as *wakeel* or proxy.

In the event of the husband dying, his brother is expected to marry the widow, and by many the obligation is considered so imperative, that one of their own wives is divorced to make room for the new comer, and yet strange to say, marriage between cousins is strictly forbidden amongst these people. Divorces are common, and not considered disgraceful. The triple oath sworn in the presence of two witnesses is sufficient, and at the expiration of three months the woman is at liberty to marry again. On the birth of a child, the mother is compelled to seclude herself for a period of seven days, after which she resumes her ordinary daily employment. Circumcision takes place at seven years, and they affirm, that it was practised before the *Hejira*, which is most improbable. The duties of the women consist in watching their flocks of sheep and goats, fetching wood and water and doing all the drudgery. The she-camels are under the care of the men entirely, whose only



other employment is gathering gums in the hot weather. Great care is required in tending the sheep and goats, on account of the number of *cheetas* that prowl about in the neighbourhood. On one of the savage animals being seen, the alarm is instantly given, and the men sally forth well armed to dislodge the intruder. A desperate fight takes place which ends in the death of the tiger, after he has fearfully clawed one or two of his assailants.

Some of the principal Bedouin chiefs possess upwards of a thousand she-camels, which may be valued at two or three dollars each, located in different pastures many days distant from each other, and under the care of one of the wives, and a few followers belonging to the family. They are generally found in droves of 50 to 80. The sheep and goats are divided in the same manner, a man rarely keeping more than 500 in one place, and thus the life of the chief is spent in continually wandering from *ghurreea* to *ghurreea*, visiting his different folds as well as his different wives. The number of sheep and goats exported from this coast, though not one-tenth so great as from Kurreem and Berbura, is still enormous, and not less than 15,000 head per annum; but the sheep for export generally come from the Wadi Mogul, and the fertile plains bordering on the province of Murreyhan.

They have large droves of horned cattle, the milk of which is almost entirely used for the purpose of making *ghee*. They are fine animals, and one that we purchased at Ras Assey weighed above 300 pounds.

Horses are abundant amongst them, and highly valued. The best description frequently selling for 150 dollars, (in kind.) They are of a small breed, and so villainously treated, that whatever beauty they may have when very young, completely disappears by the time they are five years old. To ride violently to your tent three or four times before finally dismounting is considered a great compliment, and the same ceremony is observed on leaving. Springing into his saddle, (if he has one) with his spears and shield, the Somali cavalier first endeavours to infuse a little spirit into his half-starved hack, by persuading him to accomplish a few plunges and capers, and then his heels raining a hurricane of blows against the animal's ribs, and occasionally using his spear point as a spur, away he gallops, and after a short circuit in which he endeavours to shew himself off to the best advantage, returns to his starting point at full speed, when the heavy Arab bit "brings up"

the blown horse with a shock that half breaks his jaw, and fills his mouth with blood.

The affection of the true Arab for his horse is proverbial; the cruelty of the Somali to his, may, I think, be considered equally so.

During the hot season, the men and boys are daily employed in collecting gums, which process is carried on as follows:—

About the end of February, or the beginning of March, the Bedouins visit all the trees in succession and make a deep incision in each, peeling off a narrow strip of bark for about five inches below the wound. This is left for a month, when a fresh incision is made in the same place, but deeper. A third month elapses, and the operation is again repeated, after which the gum is supposed to have attained a proper degree of consistency.

The mountain sides are immediately covered with parties of men and boys, who scrape off the large clear globules into one basket, whilst the inferior quality, that has ran down the tree, is packed separately.

The gum when first taken from the tree is very soft, but hardens quickly. The flame is clear and brilliant, and the traveller is frequently amused by seeing a miserable Bedouin family cowering under a wretched hovel, or hole in the rocks, eating their scanty meal by the light of half a dozen frankincense torches. Every fortnight the mountains are visited in this manner, the trees producing large quantities as the season advances, until the middle of September, when the first shower of rain puts a close to the gathering that year.

On my first arrival here, I made many inquiries regarding the quantity of gums annually shipped from this coast for the Red Sea and Indian markets, but the accounts I received were so surprising, that I placed no confidence in them. As I became more acquainted with the merchants here, I was able to make more minute inquiries. I first ascertained the number of boats belonging to the tribe, and their owners, I then, by visiting the different ports, found out how many boats had taken cargoes of gums at the opening of the fair season, and by comparing their statement with different accounts that I got afterwards from the shippers, I was enabled to form a tolerably just estimate, in round numbers, of the large quantity annually exported from this coast, and which export trade is almost entirely in the hands of those never-failing speculators, the banians of Porebunder and Bombay.

At the close of the N. E. monsoon, a party of these banians arrive on the coast, and settle at Feeluk, Geyseli, Bunder Murayah, Wurbah, and Bunder Khor. The Bedouins from the interior immediately visit them, and as there is no one to compete with them, they manage to engross the greater part of the trade. As the season draws on, the Bedouin finds that his gums are finished, and he is fain to purchase food to last him through the hot weather, before the setting in of the grass, on credit, and thus a running account is carried on from year to year, which of course the wary creditor takes care never to settle. The people are perfectly aware how much they are pillaged, and earnestly hope that some of the ships that they so frequently see passing along their coast, might be induced to come in and trade with them. A small vessel might easily do this; but to ensure her cargo being ready for her, an agent must be established on shore. The articles that should be brought for the purpose of barter are rice, both coarse Mangalore and Bengal, in gunnies; dates from the gulf; Surat tobacco; double dungaree, and coarse white American sheeting cloth, with a few Surat blue striped turbans and *loongees*, and a small quantity of the iron called *hindiwan*. Money should also be forthcoming if preferred. German crowns (without holes in them) are the only coin; though during our stay, rupees were often accepted. A vessel arriving at Bunder Murayah about the end of September, would be enabled to fill up a cargo of gums in three or four days, if the agent had been moderately diligent during the hot weather.

I annex a list of the boats employed, and the quantity actually shipped in each; and I now offer a rough estimate of the quantity shipped this year, taking the weight of the *bahar* at 10 to the ton. Between the 1st September 1843 to the 1st March 1844, the quantity of gums exported was as follows:—

To Bombay, ..	..	3,770 <i>bahars</i> .
„ the Red Sea, ..	..	2,350 „
„ the Arab Coast, ...	...	1,200 „
<hr/>		
Total, ..	..	7,320 <i>bahars</i> which
<hr/>		
at 10 to the ton, gives ..	..	732 tons.

The season of 1843 was considered as very unfavorable, owing to the drought, and the crop of gums not more than half the average quantity, and I was assured that three years ago the export exceeded 20,000 *bahars*; but taking every thing into consideration, I think from 900 to 1,000 tons may be set down as a fair estimate.

The trees that produce the *luban*, or frankincense, are of two kinds; viz. the *luban meyeti*, and *luban bedoui*, of these, the *meyeti* which grows out of the naked rock, is the most valuable, and when clean, picked, and of good quality, it is sold by the merchants on the coast for  $\frac{1}{4}$  dollar per frasila of 20 pounds. The *luban bedoui* of the best quality, is sold for 1 dollar per frasila of both kinds; the palest colour is preferred. The trees vary greatly in height, but I never saw one above 20 feet, with a stem of nine inches diameter. Their form is very graceful, and when springing from a mass of marble on the brink of a precipice, their appearance is especially picturesque.

The gum arabic, or *summuk*, is of three kinds; viz. the *ad-ad*, *wadi* and *auhokib*, of which the *auhokib* is considered the best. It sells at Bunder Murayah for  $1\frac{1}{2}$  dollar per frasila of 20 pounds. The tree is found on the mountain sides, in a good red soil, and varies in height from 10 to 20 feet.

The inferior qualities of gums of course are sold at a much lower rate, but when it is remembered that the merchant who resides at the Bunder, purchases two pounds of frankincense for one pound of dates, and one pound of *summuk* for two pounds of dates, the profits may be easily imagined; for instance, a man purchases a bag of Muscat dates weighing 120 pounds for  $\frac{1}{4}$  dollar, with this he purchases 12 frasilas of *luban*, which he sells to the traders, who sell for it at the rate of one frasila per  $1\frac{1}{4}$  dollar.

Myrrh is brought from Wadi Nogal, and from Murreyhan and Agahora; some few trees are found on the mountains at the back of Bunder Murayah, about 50 miles from the Levant. It is sold at Bunder Murayah, when well picked and clean, at 4 pounds for a dollar. I sent inland when at Bunder Murayah, and succeeded in getting two specimens of the tree, which is I believe, but slightly known.

The quantity of the *ghee* that is brought down for sale is too trifling to merit any remark. It is, however, singularly clear and good,



perfectly free from the disagreeable smell that distinguishes the *ghee* from Kurachee, though the major part of that originally comes from Berbura. The banians from Pore Bunder, who regularly attend the Berbura fair, carry back immense supplies of *ghee* for the Indian market, and as the Somahs are celebrated for melting down sheep's tails and mixing the fat with the *ghee* to increase the quantity, the disagreeable odour that attends "*ghee*, Kurachee 1st sort," may perhaps be accounted for.

Of the countries to the South and West of the *Mijjertheyn* tribe, nothing is as yet known, and as what little information I have been able to pick up would only swell the mass of *hearsay evidence* that already exists without establishing any fact, I refrain from making any remark on the rivers, &c. that have afforded such field for discussion. Of the practicability of exploring the course of these rivers, I have no doubt,

Since this was written, I have met a gentleman, Mr. Angelo of Zanzibar, who has recently sailed above 200 miles up the Jub, and suffered no ill-treatment. nor should I apprehend any hostility on the part of the natives, if the traveller was only duly attended by a *Mijjertheyn* chief. Repeated offers were made to me to visit the stream generally called the "*Wabi*," (*Wabi* or *Webbi* in the Somal language means a river,) and I only regretted that I was unable to do so.

A most interesting journey might be made from a few miles Southwest of Hafoon, along the Wadi Nagal to Kurrum on the Berbura coast. In this valley the best kinds of myrrh grow, and as the inhabitants are of the *Mijjertheyn* tribe, no danger need be apprehended.

My principal reason for offering this brief memoir to Government is to point out the advantageous trade that might be carried on with this hitherto imperfectly known country, and I much regret that I was unable from other duties to visit the interior. I would wish to make one concluding remark. Though the general character of the Somalis is by no means good, I much doubt if a vessel were wrecked on any other coast inhabited by perfect savages, such as the *Mijjertheyn*, whether the crew would have fared as well as that of the steam frigate *Memnon*. During a residence of six months amongst them we experienced no opposition, and were finally allowed to quit the coast on our own terms, and in perfect friendship with all.

(Signed) C. J. CRUTTENDEN, *Lieutenant,*  
*Assistant Political Agent, Aden.*

Number of boats laden with gums during the season of 1843, and their owners.

*To Bombay.*

Robea bin Salein,	..	...	...	700
Lalla, ...	...	...	...	600
Mahri, ...	...	...	...	600
Kyeti, ...	...	...	...	300
Alli Myjee,	..	..	..	500
Ayal Rocknah,...	...	..	...	300
Shea Khan,	...	...	...	300
Aial Tarba Hersee,	...	..	..	270
One name unknown,	...	...	...	200
				<hr/> 3,770 <hr/>

*To the Red Sea.*

Shermakhi,	..	..	...	..	800
Bon Saloom,	..	..	..	..	250
Adthiya bin Ahmed,	..	..	..	..	200
Doongoorna,	..	..	..	..	200
Several small Vessels,	..	..	..	..	700
					<hr/> 2,350 <hr/>

*To the Arab Coast.*

Vessels owners residing at Shahr	}	1,200
and Maculla, ... ..		

Grand Total, ... 7,320 *bahars*, which  
at 10 to a ton,.. 732 tons of gums.

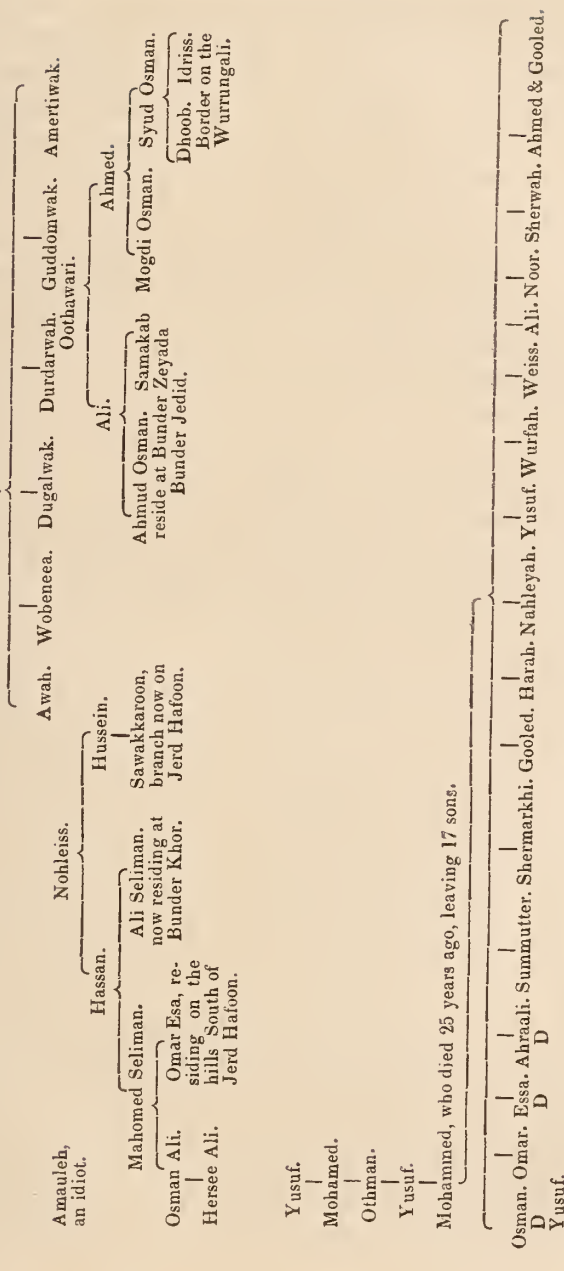
*List of Boats owned by the Mijjerthejn tribe.*

Aloolla, ... ..	2	Boats,	1	Alli Yoosuf, 1 Esa Tyah.
Geyseli, ... ..	1	"		Esa Dohel.
Gursah, ... ..	1	"		Shermarkhi Fyah.
Marrayah, ... ..	1	"		Tatha Abdi.
Bundi Khor,...	1	"		Tarha Kersee.
Bunder Baad, ...	1	"		Abdulla Farha.
Bunder Ghassim, ...	1	"		Ahmed Shabbah.
Bunder Zeyadal, {	...	1	"	Shermarkhi.
	..	1	"	Abdialli.
	...	1	"	Mahammed Woorsuma.
	...	1	"	Nahleyah Bon Beker.

(Signed) C. J. CRUTTENDEN.

## SULTAUN.

Mijjertheyn.



*Examination of a remarkable Red Sandstone from the junction of the Diamond Limestone and Sandstone at Nurnoor in the Kurnool Territory, Southern India. Received for the Museum of Economic Geology, from Capt. NEWBOLD, M. N. I. Assistant Commissioner, Kurnool. By HENRY PIDDINGTON, Curator Museum of Economic Geology of India and of Geological and Mineralogical Departments, Asiatic Society Museum.*

It is with many good writers, and I think with justice, a subject of regret that the chemistry of geology is so little attended to. One of the reasons for this may perhaps be, that the results are often unsatisfactory, or at least offer nothing striking, and we are thus much tempted when we have bestowed our labour in researches of this kind to put them aside, being unwilling to obtrude them on the notice of the scientific world, which has indeed so many more brilliant and at first sight more interesting things to occupy its attention.

It may however be doubted whether in so doing we do rightly and well; for although our results may be always, as results, of little moment, (and this is not always certain,) yet if we consider that by recording our own work, even when obtaining mere negative results, we may save work to others we might perhaps oftener do so, and this with that amount of benefit to science which arises from sparing the labours of our brother workmen, and informing them where our researches *quantum valeant*, may have failed to elicit any thing striking, though appearances might lead us to suspect that a rock did contain more remarkable constituents. It is from this motive then that I have thought it right to place upon record my examination of this remarkable sandstone, which would certainly attract the attention of any geologist or mineralogist, who might meet with it *in situ*. Its geological position, in the diamond tracts, also adds something to the interest of the specimen.

Capt. Newbold thus describes it, and I quote his description as one conveying very faithfully, as far as it goes, the appearance of the rock: "Examining it hastily, the rock appears to be composed of a dark red earthy and sometimes spongy-looking mineral, veined and streaked with a dark green chert, and imbedding curious crystals of a flesh-like-looking mineral with a fracture resembling that of rock crystal."

I should further add, as to appearance,

It appears "peppered" over with minute black grains, which by the magnifier are seen to be little nests of protoxide of iron, and exteriorly it is covered with a red, and in some places a black varnish, which is often somewhat shining. Where the stone is weathered, below this varnish, it is a reddish grey sandstone, evidently shewing traces of lamination in the line of the chert laminæ and veins.

The foregoing are its most remarkable appearances as to sight. I proceed now to describe it more regularly.

Its fresh fracture has but a little fresher colour than the internal part of the hand specimen. It gives out a peculiar faint odour when broken, which resembles that of iodine (or seaweed?) more nearly than any thing which occurs either to Capt. Newbold or myself; the fracture is somewhat splintery and angular rather than cubical. It has no disposition to break in laminæ.

It is opaque, the streak a dirty yellowish, or orange, white. It does not soil: hardness about that of Fluor. It is not tough, except about the cherty veins, and is easily powdered. It does not adhere to the tongue. It feels meagre but greasy on the external varnish.

Its specific gravity is 2.64 at Temp: 84°

Its smell I have described above.

Its taste to the tongue is very earthy, and it gives an earthy odour, though not strong, when breathed upon.

It is pounded with tolerable ease, scarcely shewing the hardness of silex, except in a few grains at the last.

In washing off, the first water is of a dull brick red, like the usual ferruginous mineral washings, the residuum is a dull greyish and denser powder, which by long rubbing also diffuses in the water, but is, especially the last portions, of a very bright (almost vermillion) red.

This powder however gives nothing but oxide of iron.

The whole washings being mixed and allowed to settle.

#### *Blowpipe.*

*Open tube.*—Very little or no smell, and that rather turfy and peaty than iodic; no sublimate.

*Bulb tube.*—Water abundant. Litmus paper discolored; turmeric paper not affected; smell that of peat, but not strong; silver leaf is discoloured, shewing the presence of sulphur, probably from some peaty mixture with it when deposited.

*In the forceps*—Fuses into a metallic looking slag at the edges.

*With Soda on Charcoal*.—Fuses with considerable ebullition, and a part is reduced, giving bright white, and soft, metallic grains and streaks in the mortar; these dissolve quickly in nitric acid, but give no precipitate with mur: acid. With prussiate of potass, dark blue precipitate and are therefore iron.

*The powder of the washing before the Blowpipe, with Soda on Platinum Wire*.—Fuses with effervescence into an opaque and dirty olive green wrinkled bead, which in the reducing flame becomes speckled with dark spots. With more soda the same. In the reducing flame greyish. The bead allowed to deliquesce takes a bright olive (or grass) green, and in the mortar gives metallic traces as before.

*Via humida*.—Powder boiled in mur: acid, the red colour changes to a dull yellow or dirty orange, with a white powder at bottom. When cool and settled, the acid is of a clear yellow orange; tested by prussiate potass. Dark blue.

*Tinct. Galls*.—A clear brown which by the addition of lime water, becomes purple and black.

*Hydrosulph. Potass*.—A dirty black brown.

*Hydrosulph. Ammonia*.—The same.

The solution filtered left a greyish white powder which was silix.

The solution was evaporated, re-dissolved and precipitated by benzoate of ammonia. The precipitate was of a light buff colour and the solution left clear. This solution and the precipitate gave no trace of titanium, but a little iron was found in it; the benzoate of ammonia not having, apparently, precipitated the whole of the oxide.

*For Iodine*.—The powder heated gradually with concentrated sulphuric acid evolved no vapour, and before the blowpipe with microcosmic salt and oxide of copper gave also no trace of Iodine.

The sulphuric acid solution gave no trace but of iron.

*The cherty-looking Veins*.—A vein giving both with the soft iron of a knife and a steel edge-tool, a greenish metallic streak, was selected.

A small triangular fragment fuses into a black slag at the apex, the assay becoming black and iron-like. Fused with soda an olive coloured bead, with borax clear pale-green glass, shewing only silica and iron.

*Result*.—The rock is a red ferruginous sandstone, with pure silica in grains, and protoxide of iron (Hæmatitic?) in little black specks and



nests, and chert, (hydrate of silica,) in veins and spots. It is slightly impregnated with peaty matter, and its smell is probably owing to this and to the minute proportion of sulphur which peat contains, and which in the specimen just discolours silver foil in the neck of the bulb tube.

H. PIDDINGTON.

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*Report of a Journey from Herat to Simla, via Candahar, Cabool and the Punjaub, undertaken in the year 1838, by order of His Excellency JOHN MCNEILL, Esq. H. B. M. Envoy Extraordinary and Minister Plenipotentiary at the Court of Persia. By MAJOR TODD, Acting Secretary of Legation.*

The circumstances under which this journey was undertaken, the short time (sixty days) which it occupied, and the disturbed state of some of the districts on my route, prevented my taking more than a hasty survey of the countries through which I passed, or obtaining any information beyond what chance threw in my way.

The following rough notes were mostly jotted down either on horse-back, or after being in the saddle from twelve to fifteen hours out of the twenty-four.

I left the Persian camp before Herat, on the 22nd May, and arrived at Simla on the 20th of July.

The city and valley of Herat have been minutely described by successive travellers. It may, however, be required, that I should say a few words on the defences of a place which, garrisoned by a small band of determined men, had up to the date of our latest authentic intelligence, successfully resisted the whole concentrated power of Persia for upwards of seven months.

The strength of the besieging army may be estimated at from 12 to 15,000 regular infantry, 7 or 8,000 irregular horse, and about 50 pieces of brass ordnance, 24, 18, 14, 12, 6 and 4-pounders, about half being of the two last mentioned calibres, with half a dozen 5½-inch mortars. I do not think that the besieged mustered more than 2,500 fighting men, actually under arms. They had no artillery, and their horsemen had been sent away to Korook, Subzawaur, and other places soon after the commencement of the siege.

The city of Herat is of an oblong shape, about 1,600 yards in length and 13 or 14,000 yards in breadth. The place is encircled by an artificial mound of earth, varying from 40 to 60 feet in height, on the summit of which stands the wall of the town. There are about thirty bastions on each face, circular and built of unburnt brick ; those at the angles of the place being much larger and higher than the intermediate ones. The height of the bastions, and walls about the mound, varies from 25 to 35 feet.

The following rude section of the defences will illustrate my description of them :—

*a.* The artificial mound mentioned above, which forms the real circle of defence.

*b.* The walls of the place.

*c. c.* Trenches cut in the mound, or what may be called the exterior slope of the rampart, about  $6\frac{1}{2}$  or 7 feet deep, and running entirely round the place. These are called the upper and lower Sheer Hajee, or Sheerazah, and in them are stationed nearly the whole of the garrison. The Sheer Hajees communicate with one another and with the town by subterranean passages, and since the commencement of the siege, they have been partly traversed.

*d.* The ditch.

*e.* The town.

I saw the ditch only at two points, at the S. E. angle of the place it was about nine yards broad, with water in it, but not filled. The Affghans had established a covered way, or place of arms on the counterscarp, communicating with the scarp by means of a plank thrown across the ditch. The Persians had worked up to within ten or twelve yards of this work, and both parties were incessantly engaged in mining and countermining. I also saw the ditch between the S. W. angle and the Candahar gate, which is situated in the centre of the southern face. It was dry at this point, and about twelve yards broad. The Persians had here advanced a covered gallery half way across the ditch.

The exterior slope of the artificial mound or rampart is at an angle of from 35 to 45, forming in most places too steep an ascent for men encumbered with arms, in face of a determined enemy. The breadth of this mass of earth, at its base, may be from 90 to 100 feet. There



are some places where the ascent is not so steep, and at one of these, the Persians, in a late attempt at assault, clambered up to the upper Sheer Hajee, of which they kept possession for some time.

The citadel of Herat is built upon a mound at the northern end of the town, surrounded by a wet ditch, said to be of considerable depth, and about 36 feet wide, and flanked by large massive towers of burnt brick, 60 or 70 feet high. The position is a strong one, and might be held for some days, or even weeks, after the fall of the town. The only entrance to the citadel is on its Southern face, over a bridge, which might be destroyed in a few minutes.

On the northern face of the town, an outwork has of late years been constructed, called the Ark-i-no, or new citadel. This covers the citadel, and one of the gates of the town.

From the above rough sketch of the defences of Herat, some idea may be formed of its strength. It would be very difficult, if not impossible to breach it with artillery, and the immense quantity of powder which would be necessary in order to establish such a mine as would effect a practicable breach, may be estimated from the dimensions of the rampart above given. From the size of the place, it would require an army of 25 or 30,000 men to invest it effectually.

Herat is not, however, without its weak points. The ruined walls of houses and gardens surround the place, and afford shelter to the besiegers, almost up to the edge of the ditch. On the northern side of the town is an immense mound called the Tull-i-bunjee, which was thrown up I believe by Nadir Shah, about 4 or 500 yards from the walls, and behind which a couple of regiments might be encamped, completely screened from the fire of the town. The very size of Herat is also a weakness: it would require a garrison of at least 10,000 men to defend it against an active and enterprising enemy.

The Sheer Hajees are not traversed throughout their whole extent, and might therefore by an enfilading ricochet fire be rendered in some places, untenable.

Nearly all the weak points above-mentioned, might, however, be remedied by a skilful engineer, and if time were allowed for this, the place supplied with guns, and a sufficiency of ammunition, and the works defended with common bravery, the capture of Herat even with European troops, would be a tedious and difficult enterprize.

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Herat, . . .	..	..	On leaving the town, the road to Candahar leads due south, through a succession of gardens and fields, intersected by numerous water-courses. About three miles from the town, the Herirood or Pul-i-Malarun river is crossed. Formerly a fine bridge of burnt brick spanned the stream at this point, but the river has formed for itself a new channel, and now flows round one end of the bridge. The breadth of the river, at the place where I crossed, was about 150 yards, the stream was exceedingly rapid, and water reached to our saddle flaps: several fatal accidents had lately occurred to persons who had attempted to ford the stream, when it had been swollen by a fall of rain in the adjacent mountains. To the south of the river is a fine tract of pasture land, thickly studded with villages and gardens.
Houze, . . . . (reservoir of water,)	14	S.	Situated in an opening of the range of hills, to the south of the town.
Meer Daoud,	4	S.	Caravanserai in good repair, with a fine stream of clear water from a kahreez or succession of wells, connected by an underground passage, which conducts the stream from its source.
Shah Beg, . .	12	S.	Ruined caravanserai; abundance of water.
Meer Allah,	12	S.	Ruined caravanserai, $5\frac{1}{2}$ miles beyond Shah Beg a spring of sweet water on the left of the road. The caravanserai of Meer Allah surrounded by cultivation, and a fine stream of water runs under the walls.
Rood-i-Guz,	6	S.	A rapid stream 15 or 20 yards broad.
Rood-i-Adruscund,	5	S.	Stream one mile beyond Rood-i-Adruscund, a rocky pass with springs of fresh water.
Khajeh Ourieh.	6	S.	A Ziaret-gâh, or place of pilgrimage. A ruin perched on the summit of a rocky

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Khajeh Ourieh. (continued.)	6	S.	hill, at the foot which runs a stream slightly brackish.
	4	S.	Road turns off to Subzawaur, leaving that which leads direct to Candahar on the left.
Houz, ....	7	S. W.	Reservoir of water ruined.
Subzawaur,	10	SS. W.	A small mud fort, 200 or 250 yards square, with seven circular bastions, on each face one gate. On the Southern face scarcely any ditch, the walls in a state of dilapidation. A small ark or citadel, the residence of the Prince governor in the centre of the place. Subzawaur is a place of no strength, and might be taken with little loss by a <i>coup de main</i> . It is situated in the midst of a richly cultivated tract of country studded with innumerable villages, which are inhabited by Noorzyes. Each village is about sixty yards square, surrounded by a mud wall. with towers at the angles. A range of hills of inconsiderable elevation to the south of the town, distant about two miles. The road between Herat and Subzawaur is good and level, and passable for wheel carriages of every description.
			Abundance of fresh water in every part of this route ; but provisions are not procurable at any point between Herat and Subzawaur. Shahzadeh Iskunder, a son of Shah Kamran was nominally the governor of this district. When I passed through it, he possessed, however, little weight or influence anywhere, and none beyond the walls of his fort ; he seemed to be a half-witted and imbecile person. He had made no attempt to succour his father, or even to divert the attention of the Persians. The surrounding country was in a state of utter disorder. Bands of plunderers were roving about in every direction,

Names of Stations, &c	Distance in Miles.	Direction.	REMARKS.
Subzawaur, (continued.)	10	SS. W.	and those men were described as acknowledging neither God nor king.
	13	E.	At this point, the road from Subzawaur joins the main road between Herat and Candahar. The range of hills to the south of Subzawaur terminates four miles from the town in a long spur, upon which the remains of an extensive fort are visible. This is called the Kulla-i-Dookhter, or maiden's castle, and at a short distance from it, on a mound in the plain, are the ruins of another castle called Kulla-i-Pisir, or the youth's fort; the plain is thickly studded with villages and <i>khails</i> (encampment) of Noorzyes. Abundance of water, road perfectly level.
Kharuck, ..	30	S. E.	A grove of <i>khunjuck</i> trees, with a fine stream of water situated under a range of hills running W. S. W. and E. N. E. Wells or springs at every six or eight miles, but no provisions procurable. For the last 4 or 5 miles, the road hilly and difficult for wheel carriages; but a road which is described as being good and level, strikes off to the right three miles before Kharuck, and after turning the Kharuck range crosses the plain to Dowlutabad, where it again joins the road which I followed. Encampments of Noorzyes are occasionally formed in the vicinity of Kharuck, but these cannot be depended on for furnishing supplies even to a small force.
Summit of Pass.	3	S.	Road or rather pathway impassable for wheel carriages.
Dowlutabad,	15	S. E.	A ruined fort on the right bank of the Furrah, and several large encampments in the vicinity. The valley of the Furrah road runs from N. E. to S. W., and is said to be richly cultivated in the vicinity of the town of Furrah, about 40 miles below Dowlutabad. Supplies to almost any extent and every description might be drawn

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Dowlutabad (continued.)	15	S. E.	from the district of Furrah. A son of Kamran, with the title of Saadut-ool-Moolk, resides at Furrah, and is the governor of the district. He, like the Subzawaur prince, has not attempted to aid his father.
Checkaub,	22	S. E. by E.	<p>On the 29th of May, the river was fordable at a point where it was divided into five streams about 300 yards above a large solitary tree which stands on the water's edge, and is remarkable as being the only tree near Dowlutabad.</p> <p>Checkaub is the name given to a fine spring of water, near which was an encampment of Noorzyes. The road from Dowlutabad passable for wheel carriages. No water between the Furrah road and Checkaub, except a few brackish streams. Abundance of water, and a good deal of cultivation, wheat and barley, in the immediate vicinity of Checkaub.</p>
Largebur Kahreez,	9	E.	Gardens. $\frac{1}{2}$ mile to the right of the road, with abundance of water. Some encampments of Atchikzyes in the vicinity.
Carwan Cazee,	4	S. E.	Water.
Toot-i-Gus- serman,	10	E.	<p>Several encampments near some mulberry trees, which are said to mark the half way distance between Herat and Candahar. Abundance of water and cultivation. Road from Largebur Kahreez hilly and stony, difficult for wheel carriages.</p>
Gunnee- murgh,	8 6	S. E.	<p>Gardens and encampments of Atchikzyes near a fine stream ; country hilly, but road good.</p>
Ibrahim-joee River.	7	S.S. E.	We turned off the main road at this point, and ascended the right bank of the stream.
Tull-i-Ku- man.	7	N. E.	Mud fort belonging to Meru Khan, a chief of Noorzyes, on the left bank of the stream. There are about thirty other forts higher up the stream inhabited by the

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Tull-i-Kuman. (continued.)	7	N. E.	<p>Baderzyes branch of the Noorzyes. There are two branches of the Noorzyes, the Chulakzyes and the Baderzyes. The head of the former is Mahomed Haleem Khan, (at present in the Persian camp before Herat; he was with Sheer Mahomed Khan when Ghorian was given up to Mahomed Shah,) and Hassan Khan, at present in Herat, is the head of the latter. It is said that the two branches of this tribe muster from 600 to 700 families. There is no such fort as Killa Suffeed, as mentioned by Lieutenant Conolly, and inserted in Arrowsmith's map; but I was told that the Tull-i-Kuman was built upon the site of what has once been the Killa Suffeed, which like all the other Killa Suffeeds, is assigned to the days of Rustam and the white demon.</p> <p>The Tull-i-Kuman is surrounded by encampments, and is used as a keep for the flocks and herds of the chief and his people. In times of danger, these people retire to caves and hiding places in the adjacent hills.</p> <p>The Tull-i-Kuman and its dependent forts are nominally under the authority of the Syfool Moolk, (a son of Shah Kamran,) who resides at Ghore, said to be about 35 miles north of Toot-i-Gusserman, but he has not been able for a long time past to extract any thing from them in the shape of revenue or taxes, and they enjoy their fields and their flocks, without paying any regard to the constituted authority, which is too weak to enforce its demands.</p>
	9	E. S. & S.	<p>Came again upon the high road; abundance of water on the road between the Tull-i-Kuman and this point; passed several gardens and encampments.</p>
Khaushrood River,	6	E.S.E.	<p>A fine stream 20 or 30 yards broad running from the north, fordable; this is the</p>



Names, of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Khaushrood River, (continued.)	6	E. S. E.	boundary between Kamran's territory and that of the Candahar sirdars.
Washeer, ..	14	E. b S.	Four forts situated on a fine stream, and surrounded by rich cultivation and gardens.
Byabanck, .	24	E.	Village with a stream from a <i>kahreez</i> . The road in some places rugged, but passable for wheel carriages. No fresh water during the first 10 or 12 miles. This road is to the south of that followed by Conolly, which leads through the villages of Pood-sand and Numzand.
Dooshaukh,	5	E.	Village surrounded by a mud-wall and towers.
Lur, ..	3½	E.	Deserted fort with a stream from <i>kahreez</i> ; no encampments in the vicinity.
	7	E. S. E.	Stream near a deserted fort, and some encampments of Barukzyes. Road perfectly level.
	4	E. S. E.	Fort small, but strong and in good repair. This fort was built by Futteh Khan Barukzye for his mother, who is said to have held a petty court here. Abundance of water.
Girishk, ..	21	S. E.	The fort of Girishk is built upon a mound about two miles from the right bank of the Helmund. Girishk is a place of considerable strength, and if properly garrisoned, would require a force of three or four thousand men, with a small train of artillery, (4 iron guns and 2 or 3 mortars would be sufficient,) to ensure its capture. There are four or five old guns in the fort, but they appeared to be in an unserviceable state. Between the river and the fort is a fine <i>chummun</i> , (pasture land,) intersected by water-courses, and dotted with gardens, and graves, and villages. The country round the fort might be easily flooded, and the approach to it thus rendered exceeding-

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Girishk, .. (continued.)	21	S. E.	ly difficult to a besieging force. Mahomed Siddick Khan, a clever intelligent young man, one of the sons of Sirdar Kohundil Khan, (the eldest of the Candahar brothers,) rules at Girishk, and is the governor of the frontier district. He is attempting to form a corps of infantry, to be drilled and disciplined after the European manner. I saw about a hundred of his recruits, armed with sticks in lieu of muskets being drilled by a fellow who looked very much like a runaway sepoy dressed in a gay English uniform. When I passed through Girishk, Mahomed Omar Khan and Mahomed Osman Khan, two sons of Kohundil Khan, were encamped in the vicinity, with about two hundred followers, on the way to join the Persian army before Herat. The measure was most unpopular, and it was given out that after a sufficient force had been collected, the young chiefs would in the first instance undertake a plundering expedition against Furrah and Subzawaur.
Rood-i-Hel- mund, .. (River,)	2	E.	The <i>Etymander</i> of the ancients. Broad and exceedingly rapid river not fordable at this season. The distance between the banks is about a thousand yards, but in spring it is said to spread itself over the low ground on its right bank, and sometimes to approach within a few hundred yards of the walls of Girishk. The Helmund takes its rise in the mountains to the west of Cabool, and after a course of 600 miles, during which it is joined by several considerable streams, the principal of which are the Turnuk, the Urghundab, the Shah Bund and the Khaushrood, it falls into the lake of Tumah. There is usually a small boat at this place, by which travellers cross the river when the stream is not fordable; but this



Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Rood-i-Hel-mund, (River.) (continued.)	2	E.	had been destroyed a short time before our arrival, and we crossed the river on an elephant, the water being in some places about seven feet deep, 3d June.
Khak-i-Chanpan,	24	E. S.E.	A grove of mulberry trees with a small stream; there is no water between the Helmund and this place.
Kooshk-i-Nakhood,	7	E. b S.	A great deal of rich cultivation, and several fine groves and gardens in the vicinity. Abundance of water. The ruins of an ancient fort called the Killa-i-Nadir, which must have been a place of considerable strength in its day, about 2 miles to the west of Koosh-i-Nakhood.
Houz i-Mud-dud Khan.	14	E.	A large tank on the right of road.
Candahar,	26	E.	<p>The Urghundab, a fine stream about half a mile to the right of road, the banks of the river thickly studded with gardens and villages. The Urghandab after passing Candahar, takes a westerly course as far as the Houz-i-Muddud Khan, and then turns to the South, not as it is laid down in Arrow-smith's map. The road from the Houz to Candahar passes through a succession of fields, and gardens, and villages, which cover this fertile and delightful valley, the breadth of which varies from 3 to 9 miles. Nearly the whole of the water of the Urghundab is taken off by canals, for the purpose of irrigation.</p> <p>The route by which I travelled from Herat to Candahar, was nearly the same as that followed in 1828 by Lieutenant Conolly, to the accuracy of whose statements and descriptions, I can bear ample testimony. I calculated the distance to be <math>380\frac{1}{2}</math> miles by the average rate of a fast-walking horse, which I found to be 4 miles an hour on level ground.</p> <p>The journey is performed by horsemen in ten and sometimes in nine days, but ca-</p>

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Candahar, (continued.)	26	E.	<p>ravans of laden mules are usually from sixteen or eighteen days between Herat and Candahar. The country is occupied by pastoral tribes, chiefly of the Noorzye, Atchikzye and Barukzye branches of the Dooranee Affghans. They are possessed of numerous flocks and herds, and in the vicinity of their <i>khails</i> or encampments, they raise a sufficiency of grain for their own consumption. These <i>khails</i>, which generally consist of from fifteen to fifty tents, are scattered over the face of the country, and as they are usually at some distance from the road, it is impossible for a mere traveller even to make a rough guess at the extent of population, or the amount of the resources of the country.</p> <p>To the South of the route above described, is another which passes through Bakwa, and which was followed by Forster in 1783, since which time I believe no European has travelled it. The Southern, or Dilaram road, as it is usually called, is described as being perfectly level, and not more than forty or fifty miles longer than the Northern or more direct one; but there is a scarcity of water on it, some of the halting places being upwards of thirty miles apart. It is however travelled by caravans and horsemen, and for an army it would have the advantage of passing within a short distance of Furrah and Subzawaur, from which places supplies almost to any extent are procurable.</p>

The city of Candahar is of an oblong shape, the length, North and South, being about 2,000, and the breadth 1,600 yards. The city is enclosed by a mud wall with circular bastions at regular intervals. The height of the walls may be about thirty feet, the ditch is dry, and from ten to sixteen feet deep, and fifteen broad, in some places less. A

wall loopholed for musquetry, about six feet high, runs round the scarp of the ditch, between which and the main wall, is a level place or *fausse braye*, eight or ten feet in breadth; the works are in tolerable repair.

Candahar is surrounded by gardens and enclosed fields, which would afford cover to a besieging force almost up to the edge of the ditch. About a hundred yards from the S. W. angle, is a large walled garden, which was taken possession of by Shah Shooja in his attempt upon Candahar in 1834, and which formed a strong advanced post for his troops.

Candahar is a place of no strength, and might be taken by escalade; but should this be deemed a hazardous experiment, four iron guns 12 or 18-pounders, would effect a practicable breach in the course of a day's firing.

Three or four mortars (8 and  $5\frac{1}{2}$  inches) should be added.

Supplies almost to any extent may be drawn from the surrounding country.

Names of Stations, &c.	Distance in Miles.	Direction.	REMARKS.
Kulla-i-khalek-dad Khan,	13	E. and E.N.E.	A half ruined village. Road for the first two or three miles led through gardens and cultivation, after which we travelled over an open uncultivated plain. Good level road free from stones; water only amongst the gardens and cultivation.
Kulla-i-Azim Khan,	3	E b N.	A small fort in tolerable repair, with a stream of clear water.
Khail-i-Ak-	8	E b N.	Opening in a low range of hills.
hoond, or	7	E.N.E.	Road good, but stony.
"Dominie's" Khail,	..	N.E. b E.	A few houses built round the tomb of a sainted school-master, situated on the right bank of the river Turnuk. The course of the Turnah, (N. E. and S. W.) is marked by a green line of tamarisk trees. A good deal of cultivation round the village.

Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Bivouac on the right bank of the Turnuk,	20	N. E.	Road excellent. Cultivation the whole way, but no villages or <i>khails</i> to be seen, the people having retired from the vicinity of the highway, to avoid the extortions of the great men who frequent the road.
Teer Andaz,	4	N. E.	A minaret about 40 feet high on the right of the road, said to mark the spot where an arrow of Ahmed Shah's fell, when that monarch was shooting from an eminence, which is pointed out on the left of the road.
Khower Taneh,	16	N. E.	No habitation to be seen. Bivouac on the right bank of the Turnuk, in the district of Khower Taneh, two or three miles beyond the minar, at a place called "Jalloogeer," or "the bridle full," the road bad and stony; for a short distance with this exception, the road perfectly level and good, following the right bank of the Turnuk. The valley of the Turnuk is now, (12th June,) a sheet of waving corn ripe for the sickle.
Julduk, ..	4	N. E.	A village surrounded by gardens, about a mile to the left of the road.
Ford, ....	8	N. E.	Crossed the Turnuk near a mill, which marks the boundary between the country of the Dooranees, and that of the Ghiljees. Here we diverged from the direct road, which leads along the right bank of the Turnuk, and passes Kelat-i-Ghiljee, but which is now seldom taken by travellers, in consequence of its being infested by robbers, or lawless Ghiljee chiefs, who either send their followers to attack caravans, or levy contributions themselves, under various pretences. The principal of these are, the sons of one Shaabadeen Khan, and are considered as the chiefs of this part of the country. They are upwards of twenty in number, and are seldom mentioned by their own names, being gene-

Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Ford, . . . . (continued.)	8	N. E.	rally called "Buchachae Shaabadeen," the sons of Shaabadeen. They reside at Kelat-i-Ghiljee and in the forts of this district, between the territories of the Ameer and the Sirdars, and are uncontrolled by either, although nominally their country is under the rule of the latter.
Kulla-i-Ramazanzan Khan, ..	8	E. b N. E. N. E.	A small fort. Our route from the river lay amongst low hills—road stony, but passable for wheel carriages. Black mail was levied of us at this place by Shaabadeen's men, who had heard of our being in the vicinity.
Koorrum, ..	22	N. E.	Small garden and <i>khareez</i> in the district of Koorrum. Passed several forts and <i>khails</i> with slips of cultivation. At the 14th mile Deewalik, a ruined fort, which is said to have been once a considerable place. As far as Deewalik the country is inhabited by the Hotukee branch of the tribe of Ghiljees—the district of Koorrum is inhabited by <i>Takhees</i> . The river Turnuk two and three miles distant behind some low hills to the westward.
Kulla-i-Jaafferee,	30	N. E.	Several forts; the road from Koorrum over undulating ground, passable for wheel carriages. <i>Khails</i> and forts on either hand, but at some distance from the road. At the 8th mile, <i>Gloondee</i> , said to be a large village. We passed it in the dark, the residence of one of the sons of Shaabadeen. At the Kulla-i-Jaafferee, we again entered the valley of the <i>Turnuk</i> . Forts and <i>khails</i> are seen in every direction—rich fertile tract of country on the banks of the stream.
Ford, ..	11	N. E. WNE.	Crossed the Turnuk, water reaching to horses' knees.
Gadh or Ghar,	1	..	The first fort of the district of Mookoor, which forms a part of the government of Cabool.

Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Source of the Turnuk, ..	16	NNE.	Several fine springs under a range of hills; road for the last ten miles lay through fields of waving corn, (wheat and barley,) clover and <i>madder</i> . Forts thickly spread over the country, and abundance of water at every step. These forts form the district of Mookoor. Road level and free from stones.
Kareez in the district of Obek or Oba,	14	NNE.	Road sandy. Obek is a pastoral district, the whole plain covered with flocks of sheep and goats, and droves of camels, but few forts are to be seen. Some <i>khails</i> under the hills, on either side of the road, at the distance of 6 or 8 miles.
Chardeh, ..	16	NNE.	One of the thousand forts of the fertile district of <i>Karabagh</i> , which is chiefly peopled by Hazarehs. The whole country as far as the eye can reach, one large field of wheat. The harvest is gathered in, early in July.
Khareez, ..	6	N. E.	Good level road.
Khareez, ..	2	N. E.	Road execrable, sandy and large round stones.
Water Mills,	16	..	In the district of Nanee. Between this district and Karrabagh is that of Moorakee, which is said to be very populous, and to contain many forts, but I saw nothing of it, as I passed it in the dark.
Chehl Buchagân, ..	8	N. E.	Fine grove; a place of pilgrimage, road good, numerous villages chiefly on the right, inhabited by the Underee division of the Ghiljees; the whole plain covered with green wheat and fine clumps of trees. Abundance of water.
Ghuznee, ..	4	NNE.	The present town of Ghuznee is a small place, not more than 400 yards square, said to have been the citadel of a former town. It was built by the Jagatars 400 years ago, and is situated on the Southern slope of a hill, to the S. W. of two minars, which are said to mark the spot upon which, or near which, stood the bazar of



Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Ghuznee, .. (continued.)	4	NNE.	Sultan Mahmood's city. The walls of modern Ghuznee are lofty, and stand upon a <i>khahreez</i> or <i>fausse braye</i> , of considerable elevation, but the ditch is narrow, and of no depth, and the whole of the works are commanded by some hills to the N. E. and N. of the place. At the Northern and upper end of the town is a hill, upon which has been constructed a small citadel, forming the palace of the governor, (Gholam Hyder Khan.) a son of Ameer Dost Mahomed. I saw one large unmanageable gun and four smaller ones, as I passed from the gate of the town to the citadel. I had no opportunity, however, of examining their state. The approach to Ghuznee from the South is highly picturesque, and the citadel, from its great height, looks formidable. The river of Ghuznee flows from the North under the Western face of the town; it supplies the place and the surrounding country with an abundance of water. Ghuznee may contain 900 to 1000 families of Tadjiks, Dooranees, and Hindoo shopkeepers and merchants. As Ghuznee commands the high road between Candahar and Cabool, it would be necessary that a force advancing from the former upon the latter place, should take possession of it; but this could be easily accomplished, as the works are of no strength, and are commanded as above-mentioned.
Tomb of Sultan Mahomed,	2	N. E.	This celebrated place of pilgrimage is situated in the midst of a large village, surrounded by fine gardens with several running streams.
	6	N. E.	Narrow defile, called the Tung-i-Sheer, a very strong position, but I believe it may be turned.
Shushgao, ..	1 $\frac{1}{2}$	N. E.	End of Pass.
	2 $\frac{1}{2}$	N. E.	Village, water, and cultivation.
Sydabad, ..	23	W.	Village. The country between Shushgao

Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Sydabad, .. (continued.)	23	W.	and Sydabad highly cultivated, a fine valley between low hills, villages at every step, abundance of water. Road good, but stony in some places.
Logur River,	4	..	Bridge called the Pull-i-Shaikhabad. The Logur river runs here from N. W. to S. E. crossing the valley, and entering some hills to the Eastward.
Top, ..	6	N.	Village.
River of Cabool, ..	12	N.	Ford. Rapid stream, about 20 yards broad, water at this season (June) stirrup deep. The Cabool river comes from a break in the hills to the N. W. of this point, and runs in a South Easterly direction, through a similar break called the Tung-i-"Lullunder," in the Eastern range.
Mydân, ..	$\frac{1}{2}$	N.	A collection of villages to the left of the road, rich cultivation, abundance of water. The country between Ghuznee and Mydân is chiefly inhabited by Wurdeks, who claim descent from the Inaam Zeinalabadeen; they number about 12,000 families, and pay 90,000 rupees to government; they are divided into three branches. 1. Malyar Chief, .. .... Koorum Khan. 2. Noaree ditto .. .. . Tein Khan. 3. Meer Khail ditto .. Jan Mahomed Khan.
Urghundee,	9 $\frac{1}{2}$	E. N. E.	Several fine villages forming the district of Urghundee, about a mile to the North of the high road.
Cabool, ..	14	E.	Half way from Urghundee, the village of Kulla-i-Hajee. From this place to the city, the road passes through a succession of gardens and fields; the whole country intersected by water-courses, brought from the river of Cabool; road excellent, villages and gardens as far as the eye can reach. The approach to Cabool from the West, is through a narrow defile, which forms as it were the Western gate of the city; and



Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Cabool, .. (continued.)	14		<p>through this defile, runs the river of Cabool, which afterwards flows through the centre of the city. The hills on both sides have been fortified with lines of wall, flanked at regular intervals by massive towers; but the works which have fallen to decay, are too extensive to be properly defended, and the height may be easily turned.</p> <p>The citadel or Bala Hissar, situated at the Eastern extremity of the city, is a place of no strength, being commanded by heights in the vicinity.</p> <p>There are about 40 guns in Cabool, most of which are in a serviceable state.</p> <p>The route between Candahar and Cabool above described, is generally blocked up by snow during four months of winter, but at the other seasons good, and passable for all descriptions of wheel carriages. Water is abundant, and supplies are procurable at any season, for an army of 20 or 30,000 men. A caravan travels between Candahar and Cabool in fifteen days, but horsemen perform the journey in 8 days, and couriers in 6.</p> <p>I estimated the distance at 317 miles, but the direct route via Kelat-i-Ghiljee is shorter by about ten or fifteen miles.</p>
Cabool Bool,	12	E. b N.	<p>Village—road good, through gardens and fields.</p>
Khak Tee- zee, ..	25	S. E. & E.	<p>Ditto, situated on the skirt of a range of lofty hills. At the 4th mile, entered a defile called Tung-i-Khoord Cabool, about 3 miles in length. Ascended a small stream, which is crossed by the road every 50 yards. After passing the defile, the road enters an open country, the village of Khoord Cabool two miles to the right.</p> <p>Twelve miles beyond Bootchak, another defile. Road hilly and stony; in some places impassable for guns.</p>

Names of Stations, &c.	Distance of Miles.	Direction.	REMARKS.
Khak Tee-zee, .. (continued.)	25	S. E. & E.	Between the second defile and Teezee, the road passes over the <i>Huft Kothul</i> , or seven Passes. Khood Buksh Khan is the chief of this district.
Hissaruk, (Pissaruck of Arrow-smith's map?)	17	E. b S.	Cluster of villages on the Soorkhrood stream. After leaving Teezee, steep ascent for about 5 miles, mountains covered with pine and holly oak, magnificent scenery, road impassable for guns, abrupt descent for about two miles; the road or pathway in the bed of a mountain stream. The Soorkhrood flows from a break in the mountains to the East of Hissaruk. The skirt of these mountains, covered with gardens and villages.
Ishpan, ....	4	E. S. E.	Village on the left of the road. Between Cabool and this place the country is inhabited by Ghiljees, but we here enter the districts peopled by <i>Khogianees</i> . Forded the Soorkhrood, clear rapid stream near Hissaruk, water at this season (June) stirrup deep, and about 20 yards broad. The Soorkhrood after being fed by numberless mountain streams, which come down from the ranges called <i>Suffeed Koh</i> , joins the Cabool river near Jellalabad.
Mookoor Khail,	12	E. b S.	Large village. Abundance of water; fine cultivation, road stony, but passable for wheel carriages, crossed several mountain streams, running from South to North.
Wurzel, ..	14	E. S. E.	Village in a valley running down from the Suffeed Koh. Abundance of water, gardens and cultivation. After leaving Nookoor Khail, the road descends into a valley with a mountain stream flowing through it. Road stony and bad; villages and gardens on the Southern side of the valley. At the 6th mile passed the celebrated garden of <i>Neemla</i> , about a mile to the left; at the 10th mile, villages and gardens on the skirts of the Suffeed Koh range.

Names of Stations, &c	Distance of Miles.	Direction.	REMARKS.
Agaum,	7	E.S.E. & S. E.	<p>Village, situated in a valley similar to that of Wurzeh. Fine stream, gardens, and rich cultivation. Villages as far as the eye can reach.</p> <p>Road stony, but passable for guns. Sir-dar Mahomed Akbar Khan, a son of Ameer Dost Mahomed Khan, was encamped with his troops in the valley of Agaum. This young man although not the eldest, is said to be possessed of more power and influence than any of the other sons. He has acquired a high character for courage, and he certainly displayed this quality in the affair of Jumrood. The government of Jellalabad has been entrusted to him, and if he is not greatly respected by the people, he is certainly the least unpopular of the family. His immediate dependents are said to be devoted to him. His troops were scattered in the different villages near Agaum, when I passed through that place, but I believe he has twelve guns, chiefly 6-pounders, in a serviceable condition; a corps of about 1500, Jazayurchees, a fine body of men armed with long heavy guns which are fired from a rest, and will carry a ball four hundred yards with precision, and two or three thousand good horses.</p>
Jellalabad,	24	NNE.	<p>Village. The road or rather pathway for the first six miles led through gardens and rice fields, the whole country flooded for the purpose of irrigation, impassable for guns. There is, however, a gun road, which makes a circuit of some miles between Agaum and Jellalabad, the remainder of the road passable for wheel carriages.</p>

Jellalabad is situated on the right bank of the Cabool river, which is here a stream of considerable volume, and about half a mile broad. Round Jellalabad are the remains of a wall of considerable extent, but the place is now reduced to a mere village, surrounded by extensive ruins.

The various routes between Jellalabad and Peshawur have been already minutely described. At this season of the year (June,) the river route is generally followed, as being the safest and most expeditious. Rafts are formed of splinters of wood, which hold together from twenty to a hundred inflated bullock skins, and an accident rarely happens during the months of May, June and July, when the water is of sufficient depth to cover the rocks, which are dangerous at other seasons. Near Jellalabad, the river runs in a broad bed with low banks on each side; distant hills with snow on their summits on either hand. The space between the foot of these hills and the river, covered with villages and green fields. Fine groves of trees scattered along the banks. The stream, when I passed down, was running at the rate of six or seven miles an hour. A few miles below Jellalabad, the Cabool river is joined by a broad and rapid stream of considerable volume, called Durya-i-Koower. The distance between Jellalabad and Peshawur by the river route, is about 90 miles. This distance is performed on a raft of 25 skins, impelled by two large oars, in about twelve hours. Half way is the large village of Lalpoor, situated on the left bank of the river, the residence of Saadut Khan, chief of the Momund tribe, which is said to number 4,000 families. After passing Lalpoor, the river flows for about thirty miles in a deep narrow channel, walled in by precipitous rocky mountains of great height. In this part of the river are most of the whirlpools and dangerous places. One called the *Shutr Gurdun*, or camel's neck, 26 or 27 miles below Lalpoor, is particularly dreaded by the raftsmen, and is considered even in the best season a place of peril. Two or three miles below *Shutr Gurdun*, the river debouches from the mountains, and enters an open cultivated country. At the village of Muchnee, on the left bank, tolls are levied on rafts passing down the river. From Muttee, a small village on the right bank of the river, seven or eight miles below *Shutr Gurdun*, Peshawur is distant about 14 miles. The country was overflowed for the purpose of irrigation, and the road which passed through a succession of rice fields, was scarcely passable to laden ponies.

I need say nothing of the present state of Peshawur, or of the route through the Punjaub from that place to Loodhiana, both having been minutely described by others.

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*Appendix to Mr. Blyth's Report for December Meeting, 1842.*

[Continued from vol. XII, p. 1011.]

*Mynahs*.—In Vol. XI, p. 178 (*bis*), I thought it necessary to describe the two Hill Mynahs of India (genus *Gracula*, v. *Eulabes*, Cuv.), and I have now approximated to these my *Ampeliceps coronatus* (vide XI, 986): perhaps an enumeration of the other Indian Mynahs will not be unacceptable. These vary considerably in form and habit, and may be resolved into different minor groups. The genus *Pastor*, Temminck, apud G. R. Gray, is typified by *P. roseus*; and *Acridotheres*, Vieillot, by *Acr. tristis*. I shall begin with the more bulky, heavy-formed species, which seek their food chiefly or wholly on the ground. Of these, the two first are distinguished by having a large naked space under and beyond the eye.

1. *Acr. tristis*, (Gm.) Vieillot; *Pastor tristoides*, Hodgson, mentioned in *J. A. S.*, V. note to p. 773. (COMMON MYNAH.) Everywhere abundant throughout India in the vicinity of human abodes and cultivation, and remarkable for its familiarity. It rarely nidificates except in the cavities of buildings.

2. *Acr. ginginianus*; *Turdus ginginianus*, Latham; *Gracula grisea*, Daudin; *Cossyphus griseus*, Dumeril. (BANK MYNAH.) Common in Bengal (though not in the immediate neighbourhood of Calcutta), Nepal, Assam, and in the Tenasserim provinces; but has never been observed by Mr. Jerdon in the Indian peninsula. It frequents the vicinity of water, at least during the breeding season, when it builds in holes in river-banks. The frontal feathers are erectile, forming a slight crest less developed than in the two next species, and those on the sides of the head are directed towards the median line. The young are plain greyish-brown, much as in the immature *Sturnus vulgaris*, but exhibit a whitish wing-spot and tips to the tail-feathers, and the plumage of the sides of the crown is disposed as usual. This species may generally be obtained of the Calcutta dealers.

The two next retain the bulky form of the preceding, but have no naked space on the face, and the frontal feathers stand up, forming a short and laterally compressed crest.



3. *Acr. cristatellus* ; *Gracula cristatella*, Lin. ; *Pastor griseus*, Horsfield ; *P. cristalloides*, Hodgson, J. A. S., V, note to p. 773. (SUBCRESTED MYNAH.) Common in Bengal, Nepal, and eastward to the Chusan Archipelago, also in the Burmese and Malay countries ; but replaced in Southern India by the next species. Always nidificates in the hollows of trees.

4. *Acr. fuscus* ; *Pastor fuscus*, Temminck, apud Griffith's work ; *P. Mahrattensis*, Sykes. (DUSKY MYNAH.) Closely allied to the last, but smaller, with the upper-parts inclining to brown instead of ashy, and the irides greyish-white instead of bright yellow. Southern India.

*Acr. fuliginosus*, Nobis. In a collection of bird-skins procured in the vicinity of Macao, are two specimens of a Mynah allied to *Acr. cristatellus*, but obviously distinct in species, though being in a transitional state of feather from the immature to the adult garb, the latter cannot be fully described at present. Length about ten inches, of wing five and a quarter, and tail three inches ; bill to gape an inch and a quarter, and tarse an inch and a half. The new feathers of the upper-parts were coming dusky-cinereous, of the breast and flanks a purer dark cinereous, resembling in hue the fore-neck and breast of *Acr. cristatellus* : the belly and vent are uniformly coloured with the rest of the under-parts, and the lower tail-coverts are blackish, whereas in both the preceding species these are nearly or quite white at all ages : the nestling plumage of the head is blackish, and the form of the feathers indicates that these would be slender and elongated in the adult, which has probably a slight frontal crest less developed than in *Acr. cristatellus* ; the new feathers of the wings are bronzed black, except the base of the primaries and the coverts impending them, which are white : tail wholly blackish : the beak is less compressed than in *Acr. cristatellus*, and the tip of the upper mandible is more distinctly incurved and emarginated ; the colour of both mandibles would seem to have been orange at base, and white for the terminal half : the legs apparently have been yellow. There is no naked skin upon the face ; and its superior size, with the total absence of white upon the tail and its under-coverts, distinguishes this species readily from *Acr. cristatellus* of any age.

The next are smaller and lighter-formed, more allied to *Sturnus*, but having a shorter and more compressed bill. Their habits are much

more arboreal, as they seek their food upon trees, and are very rarely seen on the ground. They constitute the *Sturnia* of Lesson.

1. *St. pagodarum* ; *Turdus pagodarum*, Lin. (BRAHMINÉE MYNAH.) Body greyish, the ear-coverts, neck, and under-parts, bright buff, with mesial streaks to the feathers of different texture ; the cap black, and bearing a long pendent crest of slender pointed feathers ; thighs, lower tail-coverts, and tips of the outer tail-feathers, white. Female rather less deeply coloured, with the crest not quite so long : and young yellowish-grey, inclining to pale buff on the throat and breast ; the cap at first concolorous or nearly so, afterwards dusky-black and not crested. An abundant species in the Carnatic, and occasionally observed in other parts of Southern India : in Lower Bengal it is chiefly met with towards the close of the cool season, frequenting the arboreal cotton then in blossom. It may often be obtained of the Calcutta birddealers.

2. *St. Malabarica* : *Turdus Malabaricus*, Gm., but not *Pastor Malabaricus*, apud Jerdon, *Madras J.* XI, 22, which refers to the next species.\* (GREY MYNAH.) Upper-parts grey, the forehead and throat whitish, the former occasionally pure white ; and entire under-parts from the fore-neck ferruginous-buff, deep and bright-coloured in old males, and comparatively very faint in the younger females ; primaries slightly green-glossed black and tipped with grey, and the middle tail-feathers greyish, the rest dusky, successively more broadly tipped with deep ferruginous. The wings and tail, and in fact the plumage generally, are quite those of a typical *Sturnus*. Young pale greyish, lighter underneath, with rufous tips to the outer tail-feathers. There are few birds which abrade their plumage so much by the time the moulting season comes round : the colours fade, and even make a near approach to uniformity. It is very common in Bengal, Nepal, and Assam, but apparently rare or perhaps local in the peninsula of India.

3. *St. dominicana* (?) ; olim *P. malabaricus* apud Jerdon.† (WHITE-HEADED MYNAH.) Closely allied to the preceding, but dis-

\*According to Mr. Jerdon, the *Pastor nanus* vel *Gracula cinerea* of Lesson's *Traité* appears to refer to this species.

† No doubt the *Pastor dominicanus* apud Lesson, *Voy. de Bélanger*, stated to be tolerably common on the Continent of India ; but its identity with the Philippine species so named, remains I suspect to be ascertained. In a letter just received from Mr. Jerdon, that naturalist remarks that "*Pastor dominicanus*, as described by Lesson [in his *Traité* ?] can never be my *malabaricus*."



tinguished structurally by its longer tail, and in colour by having the whole head, neck, throat and breast, silky-white, the back of a more albescent grey, and the primaries plain black; the flanks, belly, lower tail-coverts, and a portion of the tail, being alone rufous. Inhabits Southern India, and especially the lofty jungles of the Malabar coast, so that the name *malabaricus* is better applicable to this species than to the preceding one. Gmelin, it may be remarked, in his long and heterogeneous list of species assigned to the genus *Turdus*, has described two very different species by the appellation *T. malabaricus*, namely, the preceding bird and the *Phyllornis* (*v. Chloropsis*) modernly so named (XI, 957).

*St. elegans*; *Pastor elegans*, Lesson, *Voy. de Bélanger*, p. 266. This is a beautiful species of the present group, inhabiting Cochin China and the Malay peninsula. Colour glistening grey, the forehead, lores, and throat, medial part of wing, rump, tail-tip, with the belly, flanks, and lower tail-coverts, bright golden-ferruginous; fore-part of wing white, and the hinder half, brightly bronzed black; base of tail also black; bill lead-coloured, and tarsi yellow. According to M. Lesson, "this species was named *P. Chinensis*, by Temminck, in Kuhl's Catalogue of Daubenton's *Planches Coloriées*; it is both *Oriolus Sinensis*, sp. 44, and *Sturnus sericeus*, sp. 8, of Latham; and Daubenton's figure, pl. DCXVII, where it is termed *Kink* of China, is so bad as to give a false idea." More or less of this is certainly erroneous. I have now before me specimens of both sexes of the true *Sturnus sericeus*, Latham, received from Chusan, being evidently that described as such by Shaw and in the *Dict. Class.* It is a larger bird than any of the preceding members of this group, with a stronger bill less laterally compressed at tip, and may be thus distinguished:—

*St. sericea*. Length nearly nine inches, of wing four and three-quarters, and tail two inches and five-eighths; bill to gape an inch and one-eighth, and tarsi an inch. Upper parts of male fine glistening ashy, the wings and tail bronzed green-black, excepting the coverts of the primaries which are white; entire head, throat, and fore-neck, a silky subdued white, the feathers of the crown slender and elongate: rest of under-parts somewhat paler ashy than the back, the middle of the belly, under tail-coverts, and fore-part of the under surface of the wing, white: bill coral-red with a black tip; and legs

bright yellow. Female rather smaller, having the ash-colour of the male replaced by brown, pale on rump, and the head and throat dingy whitish, passing into ashy-brown on the occiput. A handsome species, with delicate silky plumage.\*

*St. cana*, Nobis. I can only describe this species from an imperfectly moulted specimen received from Macao. Length about seven inches, of wing three inches and seven-eighths, and tail two inches and three-eighths; bill to gape an inch, and tarse seven-eighths of an inch. Colour of the new feathers of the crown and back plain brownish-ash, and of those of the breast and flanks the same but much paler and delicately tinted, all being rounded as in the nestling plumage, not slender and elongate as usual in this group; throat and belly albescent: the unshed nestling feathers are uniformly of a paler or browner grey above, and lighter-coloured below: wings and tail darker, the primaries and middle tail-feathers glossy nigrescent: some of the larger coverts upon each wing towards the scapularies are white in the specimen, which however I conceive to be partial albinism, and not to be a constant character; but the coverts of the primaries are also white for the greater part of their outer web, which is more probably normal: tertiaries brownish and pale-edged, and the outer tail-feathers whitish towards their tips: bill yellowish, mixed with dusky; and legs appear to have been sullied yellow. This is obviously a distinct species from any of the foregoing.

The *Pastor tricolor*, Horsfield, *Lin. Trans.* x111, 155, v. *P. melanopterus*, Wagler, is probably another species of this group inhabiting Java.

According to Mr. G. R. Gray (*List of the Genera of Birds*, 2nd edit.), the type of the genus *Pastor* is *P. roseus*, (Lin.) Tem., which is very common in many parts of India, but visits the neighbourhood of Calcutta only towards the end of the cool season, when flocks of this species and of *Sturnia pagodarum* are not unfrequently observed upon the arboreal cotton then in blossom. Nearly related to this, according to M. Lesson, is a Peguan species, *P. peguanus*, Lesson,

\* In Mr. Strickland's catalogue of some Chinese birds exhibited in London (*Ann. and Mag. Nat. Hist.*, Sept. 1843, p. 221), the above species is termed *Acridotheres sericeus*, with the remark, that it "is quite distinct from *A. dauricus*, Pall., with which it is united by Wagler." To which of the minor groups this *A. dauricus* should be referred, it is not easy to divine from the description of it.

having "*les plumes capistrales courtes et serres*," it would seem to connect the present form with *Sturnia*. Mr. Eyton has described a Mynah from the Malay peninsula as *Pastor Malayensis*, *P. Z. S.* 1839, p. 103; and the *Turdus ocreocephalus*, Gm. (*Tem., pl. col.* 136), said to inhabit Ceylon and Java, is referred to the group of Mynahs by Stephens.\*

The ordinary Indian Starling, *Sturnus contra* and *capensis*, Auct., *Pastor jalla*, Horsfield, and apparently *P. auricularis* of the *Dict. Class.*, constitutes Mr. Hodgson's division *Sturnopastor*: and the Himalayan Starling, considered to be identical with *St. vulgaris* by most authors, certainly differs considerably from the European bird in the form of its beak, which is longer and more compressed at tip, being drawn out to a much finer point, besides that this organ never turns yellow as in the European Starling: considerable numbers are sometimes sold alive in Calcutta, brought from the hilly regions of Bengal (as Monghyr, &c.), observation of which has led me to conclude that the distinctions above-mentioned are permanent, and therefore to follow Mr. Hodgson in styling this oriental analogue of the common European Starling *St. indicus*.

Finally, there remain two oriental species of *Sturnidæ*, which, though by no means nearly allied, have both been referred to the genus *Lamproternis*. One is *Calornis cantor*, (Latham) G. R. Gray, v. *Turdus chalybeus*, and *T. strigalus*, Horsfield, which the Society has received from Arracan and the Tenasserim provinces, where it would seem to be very common. What are probably once-moulted females, rather than the young of the year, have the under-parts yellowish-white, with green-black central streaks to the feathers; and in one specimen before me are some mingled under tail-coverts, of an uniform glossy green-black as usual. The other species is *L. spilopterus*, Vigors, figured in Gould's *Century*, an inhabitant of Nepâl and the hill ranges of Assam, upon which Mr. Hodgson founds his genus *Saroglossa*, referring it to the *Meliphagidæ*, and which he characterises as follows:—

\* In Griffith's edition of the *Régne Animal*, VI, 422, is described *P. temporalis*, Tem. "Cheeks naked, red; head and streak over eyes pure white; collar black; another near the back white; scapularies and wings black-brown; chest and belly white; wing-coverts white-edged; tail-ends white. Length eleven inches. Bengal," undoubtedly, however, from some other locality.

"Genus *Saroglossa*, H. Bill *Chloropsian*, but stouter. Tongue cartilaginous, flat, furnished with a full brush forwards. Wings considerably acuminate and firm, 1st quill bastard, 3rd longest, 2nd and 4th equal, and rather less than the third. Tail firm, stoutish, sub-furcate. Legs and feet strong, arboreal, and subrepatory. Tarsus (to sole) exceeding the mid-toe and claw: heavily scaled to the front; smooth to sides, and cultrated behind. Toes medial, unequal; the hind one large and depressed. Nails acute, well curved, suited for creeping or clinging.

"Type, *Lamprotornis spilopterus*, Vigors.

"Habits monticolous and arboreal, feeding like *Chloropsis*, to which genus and to *Hypsipetes*, *Brachypus*, &c., it has most affinity, both of structure and manners, seeming to represent the Sturnine birds in its own group." I still prefer to retain it among the *Sturnidæ*.

Another group requiring elucidation, and which has strangely been referred by several authors to that of the Mynahs, is the genus of Doomrees (*Malacocercus*, Swainson), and its various allies. This genus was founded on a Ceylon species, identified by Mr. Swainson with the *Gracula striata* of the Paris Museum (or *Cossyphus striatus*, Dumeril), and figured by him in his 'Zoological Illustrations' as—

1. *Malacocercus striatus*. It closely resembles one from Southern India, and another from Bengal, Nepal, and Assam; but is distinguished from the first by the absence of the pale longitudinal markings of the feathers of the back and breast, and from the second by the obvious striation of its tertiaries and tail. A Cingalese specimen presented to the Society by Willis Earle, Esq., corresponds exactly with Swainson's figure; the cross-striæ being much more conspicuous than in its Bengal representative, and consisting of rays of a deeper colour seen at all angles of reflection: the under-parts also are more deeply tinged with rufous. Length about nine inches and a half, of wing ten inches, and middle tail-feathers four and a quarter, the outermost an inch and one-eighth less: tarse an inch and one-eighth: the bill to gape an inch only.

2. *M. terricolor*, Hodgson; mentioned as *Pastor terricolor*, H., in *J. A. S.*, V, 771, and also classed by Dr. Pearson among the Mynahs in X, 650. Resembles the preceding species, excepting that all its colours are less brought out, the cross-rays on the tail being faint and inconspicuous, and barely discernible on the tertiaries; a very



weak tinge of fulvous on the abdominal region. Bill an inch and one-eighth to gape. This is one of the most common birds of Bengal, and it is only after examining a considerable number of specimens, that I consider it may be safely separated from *M. striatus*. It extends into Nepál and Assam.\*

3. *M. Somervillei*; *Timalia Somervillei*, Sykes, P. Z. S., 1832, p. 89. The general colour of this species is somewhat darker, with distinct pale mesial streaks on the feathers of the back and breast, which are seen also on the upper-parts of the next species; its tertials are but very obscurely striated, but the tail distinctly so, as in the first: tarse somewhat shorter than in the two preceding. Mr. Jerdon agrees with me in considering this distinct from *M. terricolor*, which it represents in the Indian peninsula, extending northward, according to Dr. Royle's list, to the plains nearest Saharunpore; but the species of this group approximate so very closely, that it is necessary to be most cautious in identifying them. Indeed, the present one is not improbably the original *striatus*, although not that of Mr. Swainson.

4. *M. griseus*; *Turdus griseus*, Latham; *Timalia grisea*, Jerdon, *Madr. Jl.* No. XXV, 258. This is another peninsular species, also closely related to the foregoing, but readily distinguished by its inferior size, yellowish-white crown or whole top of the head, and dark throat. Common in the Carnatic, and found sparingly in the more open portion of the West Coast.

A race allied to this was met with in the Southern Mahratta country by Mr. Elliot, being described by him to have whitish legs and feet, instead of yellow (vide *Madr. Jl.* No. XXV, 259). Mr. Jerdon has never observed *A. griseus* above the Ghauts.

\* No doubt the *M. striatus* of a catalogue of Bengal birds published in the *An. and Mag. Nat. Hist.* 1843, p. 447.—It is also, I perceive from Edwards's description of his "Brown Indian Thrush," which was "brought from Bengal in the East Indies," decidedly the species intended by him: the figure, too, being chiefly faulty in attitude, while the colouring of it is enough to mislead any one. Upon this figure and description is founded *Turdus canorus*, Lin., and the "*Ianthocincla canora*, (Lin.)," of Mr. Strickland's list of some Chinese birds exhibited in London, *An. and Mag. Nat. Hist.* 1843, p. 221, is meant to refer to it, but doubtless indicates some other species, probably the *Turdus chinensis*, Osbeck, which Linnæus considered identical with the bird of Edwards. The specific name *canorus* has accordingly the priority for this species, but must be rejected from its extreme inappropriateness: the bird having a most particularly harsh voice (*atch, atch*), and no pretensions whatever to be musical, in the least degree.

In the following species, the tail is more elongated, narrower, and more graduated :—

5. *M. Malcolmii*; *Timalia Malcolmii*, Sykes, *P. Z. S.* 1832, p. 88; *Garrulus albifrons*, Gray, in Hardwicke's Illustrations. Elevated lands of Southern India. Cawnpore (?), apud Hardwicke.

6. *M. Earlei*, Nobis. Allied in form to *M. subrufus*, but the beak more compressed, and plumage very different. Length nearly ten inches, of which the middle tail-feathers measure five, the outermost two inches less; wing three and a half; bill to gape an inch and one-eighth, and tarse an inch and a quarter. Upper plumage much as in *M. chatarrhæa*, the frontal feathers however more defined, and less inclining to rufescent, having similar dark central streaks; transverse striæ of the tail-feathers scarcely, if at all, discernible: neck and throat dull-reddish fulvous, the feathers margined paler, and having faint dark central lines: rest of the under-parts dingy albescent-brown. Beak yellowish, and legs also light yellowish. Common in heavy reed and grass jungle in Bengal, and described from a specimen shot in the vicinity of Calcutta by Willis Earle, Esq., to whom the Society is indebted for numerous zoological contributions. Mr. Hodgson has since sent it from Nepal, and Mr. Barb from Tipperah; and it has likewise been procured by Mr. Earle in the Rajmahl district. A young one shot near Calcutta is clad in the flimsy nestling plumage, having the markings generally less distinct, except upon the forehead, and the throat and breast of a clearer pale ferruginous. One of the drawings of the late Dr. Buchanan Hamilton appears to represent this species, and I would have adopted his specific name for it, had this only been a little more euphonious.

7. *M. chatarrhæa*; *Timalia chatarrhæa*, Franklin, *P. Z. S.* 1831, p. 118: *Cossyphus caudatus* (?), Dumeril, vide *Dict. Class: Megalurus isabellinus*, Sw., "Menag." Inhabits bushes and grass-jungle in the peninsula, also, according to Mr. Frith, the extensive reedy tracts covering the churrs in the large rivers of Bengal. Sir A. Burnes obtained it in Scinde.

8. *M. subrufus*; *Timalia subrufa*, Jerdon, *Madr. Jl.*, 1839, p. 259: *T. pæcilorhyncha*, de la Fresnaye, *Rev. Zool. de la Soc. Cuv.* 1840, p. 65. Tail broader and softer than in the preceding species. Neilgherries.

9. *M. (?) pellotis* ; *Timalia pellotis*, Hodgson, *As. Res.* XIX, 182. Nepal.

10. *M. (?) nipalensis* ; *Timalia nipalensis*, Hodgson, *loc. cit.* Mr. Hodgson has forwarded two skins as examples of his *T. pellotis* and *T. leucotis*, which latter would seem to be only another name for his *nipalensis*, which is stated by him to have the entire cheeks pure white ; the state of the specimen does not permit me to distinguish it from *T. pellotis*, to which, at all events, it is very closely allied.\*

The true *Malacocerci* have been considered peculiar to India, but the *Crateropus Jardinii* of Dr. Andrew Smith's 'Zoology of South Africa' appears to me to belong decidedly to the present group, rather than to *Crateropus v. Garrulax* ; and I should also place here the *Malurus squamiceps* and *M. acaciæ* of Ruppell. The *Timalia hyperythra* of Franklin, though of very diminutive size, is so closely allied to *M. subrufus*, that I almost think it should be ranged with it:† and of the other reputed *Timaliæ* of Southern India, *T. hypoleuca*, Franklin, is the type of Mr. Hodgson's genus *Chrysomma*, being, I think, separated with propriety, and Mr. Frith informs me that there is a second species of this form in Bengal, additional to *hypoleuca* (vel *Horsfieldi*, Jardine and Selby), from which it differs in being about half larger : the *T. platyura*, Jerdon, approaches more to *Sphenura* than aught else, but cannot well rank therein, its bill much resembling that of *Sph. striata*, (*J. A. S.* XI, 603,) but the vibrissæ being less developed:‡ and lastly, the *T. poiocephala*, Jerdon, I refer to an extensive Malayan group, exemplified by *Malacopteron*, Eyton, which is my *Trichastoma*, XI, 795, and is hereinafter subdivided, the species in question falling under my division *Alcippe*, p. 384.

*Gampsorhynchus*, Nobis, *n. g.* Allied to the long-tailed *Malacocerci*, and also to *Sphenura*, but the bill intermediate in form to those of *Turdus* and *Lanius*, and the gape conspicuously armed with straight vibrissæ : it is nearly equal to the head, moderately compressed, the ridge of the upper mandible obtusely angulated, and its outline curv-

\* The *Malacocerci* appear all to lay bright blue eggs, at least such is the colour of those of *M. terricolor*, *griseus*, and *chatarhæa*, in the Society's Museum ; and the *Oxylophus serratus*, which lays a nearly similar egg, but having a greenish cast, resorts to their nests to deposit it in.

† The crest of this species allies it to *Stachyris*, Hodgson, p. 378.

‡ Vide p. 374.



ing towards the tip, which is strongly emarginated, and forms a distinct hook, overhanging the extremity of the lower mandible; nostrils oval, pierced in the fore-part of the nasal membrane; wings and tail graduated, the first primary two-fifths the length of the fifth, which is equal to the sixth and seventh and longest: feet formed for perching, the tarse rather longer than the middle toe with its claw, and the claws but moderately curved: tail elongated.

*G. rufulus*, Nobis. Length about nine inches, of which the tail is four and three-quarters, and bill to gape above seven-eighths of an inch; wing three inches and a half; and tarse an inch and one sixteenth. Colour of the upper-parts uniform olive-brown: and the head and entire under-parts probably wholly ferruginous; but the only specimen examined is a partial albino, having the head and under-parts white, with a few ferruginous feathers intermixed: bill horn-coloured, the upper mandible dusky above, and the lower pale; and feet light brown: under-surface of the wings pale fulvescent, which also margins the basal portion of the inner webs of the large alars: tail much graduated, its feathers more or less tipped with albescent; rictorial bristles black. Received from Darjeeling.

*Orthorhynchus*, Nobis, *n. g.* General structure of *Pomatorhinus*, but the plumage still more lax and open, the wings more bowed or hollowed, and the feet more decidedly adapted for progression on the ground, having the claws larger and straighter: the bill is less elongated than in the more typical *Pomatorhini*, and is much less compressed, its upper mandible shewing scarcely more than an indication of a curve, and the gonys of the lower mandible ascending posteriorly to the junction of its rami, by which a distinct angle is there produced.

*O. hypoleucos*, Nobis. Length about ten inches, of which the tail measures four; wing four inches and a quarter; bill to gape one and a half; tarse rather more; hind toe and claw an inch and a quarter. General colour fulvescent olive-brown above, the lower parts white, with traces of dusky terminal spots on the breast; streak backward from behind the eye, and the sides of the neck posterior to the ear-coverts, bright fulvous; sides of the breast ashy, with white centres to feathers: the bill dusky, a little whitish at tip, and beneath the lower mandible: legs pale: the feathers of the crown a little squamose. Inhabits Arracan.

Another Indian genus referrible to the same great series, is *Pellorinum* of Swainson, v. *Cinclidia*, Gould; and the only species—*P. rufi-*

*ceps*, Sw., *C. punctata*, Gould, and *P. olivaceum*, Jerdon,—appears also to claim *Megalurus ? ruficeps* of Sykes as a synonym ; at least his description of the plumage agrees precisely, only he states that the tail is equal and narrow, whence it may be that the outermost pair of *rectrices* were wanting in his specimen. The admeasurements which he assigns, also, are improbable for a bird of this group, whence I suspect that there must be some typographical error ; the minute description of the colouring coincides exactly.\* The Society has received specimens of *Pellornium ruficeps* from Mr. Hodgson and from Mr. Jerdon. Very different is the

*Megalurus palustris* (?), Horsfield, (which is *Malurus marginalis*, Reinwardt ;) *Turdus toklao* of Buchanan Hamilton's drawings, *J. A. S.* XI, 603. This, I believe, is a genuine *Megalurus*. It has a long and much graduated tail, and is remarkable for the considerable difference of size between the male and female. Length of the male about nine inches and a half, of which the tail measures four and three-quarters, its outermost feathers two inches and a quarter less ; wings three inches and three-quarters, and their spread twelve inches ; bill to gape an inch, and tarse an inch and a half : female eight inches and a quarter, of which the tail measures four and a quarter ; expanse ten inches and a half, and closed wing three and one-eighth ; bill to gape seven-eighths of an inch, and tarse barely one and a quarter. Colour much as in the British *Locustella Raii* ;† the feathers becoming extremely worn prior to their renewal, and tail much rubbed away. In new plumage the upper parts are bright olive-brown, with a mesial broad black stripe to each feather of the back and scapularies ; margins of the wing-feathers also brown, their inner portion dusky ; crown rufescent, with mesial dark lines to the feathers, tending to become obsolete towards the front, these coronal feathers being small, rigid, and appressed ; a pale streak over the eye ;

\* In a valuable communication from Mr. H. E. Strickland, that naturalist remarks, of Col. Sykes's specimen,—“*Megalurus ruficeps*, Sykes, is not a *Megalurus*, but seems to me to belong to Gould's Australian genus *Hylacola*.” The latter would seem, however, from the description in *P. Z. S.* 1842, p. 135, to come very close upon *Pellornium*, and I should not be surprised to learn of their identity. Gould's illustrated work on the ‘Birds of Australia,’ I have not at present an opportunity of referring to ; but I think I can recollect the figures of his two *Hylacolæ*, and that they do closely approximate the *Pellornium*.

† The *Locustella* is indeed more allied to this and proximate genera than to the birds with which it is usually arranged.

and the under-parts are dull whitish, tinged with brown, the breast usually more or less speckled with small linear dark spots; tail brown without markings: bill horn-coloured, the lower mandible chiefly pale, and inside of the mouth light yellowish, with merely a black spot at each posterior angle of the tongue,—but during the breeding season the interior of the mouth is wholly black, and the bill is then of a livid colour, suffused above with blackish: legs dull purplish-brown. In worn plumage, the black portions of the feathers have faded to dusky-brown, and their brown lateral margins have more or less disappeared, what remains of them having faded in hue. The young nearly resemble the newly moulted adults in colouring, but have a strong tinge of yellow on the eye-streak and under-parts, and the lower mandible is chiefly bright yellow; their crown also is devoid of any rufous tinge. The different size of the sexes is very conspicuous when they leave the nest (which is during May). In many respects, this bird resembles the *Sphenura*, but the beak is considerably more slender and elongated, the rictorial bristles are inconsiderable, and the tarse is larger and stronger, with proportionate toes and claws. Both genera have remarkable freedom of action of the legs, enabling them to sprawl widely as they clamber among the reeds and grass-stems, and the black interior of the mouth during the breeding season is common to both, the entire beak also becoming black in the *Sphenura*.\*

Of the latter genus, I now suspect, from analogy with the *Megalurus*, that the two supposed species noticed in XI, 602-3, are merely male and female of the same, notwithstanding the considerable discrepancy of size. In all other respects they agree precisely; and of four specimens of the large size which I have now obtained, all proved to be males, while the only example of the small size which I have yet succeeded in procuring, was a female. Mr. Jerdon has lately procured two or three of the small size in the vicinity of Nellore, and it remains to ascertain whether all of these were females. The large measure eight inches and three-quarters long, by eleven across; wing three and a quarter; middle tail-feathers three and three-quarters; bill to gape seven-eighths of an inch, to forehead under five-eighths; tarse

\* Mr. Frith informs me, that the *Megalurus* ascends singing, with a fine flute-like voice, to some height above the reeds which it frequents, and then suddenly drops down among them.

an inch and three-sixteenths. The small female gave seven by nine inches; wing two and seven-eighths; tail eight inches, and tarse an inch and one-sixteenth. Mr. Frith has well suggested that the very remarkable ant-orbital bristles of this genus are admirably adapted to protect the eyes when the bird is forcing its way through the dense tufts of high grass and reeds, among which both it and the *Megalurus* are constantly found.

Following the *Sphenura* should rank Mr. Jerdon's *Timalia platyura*, for which I have suggested to him the generic name *Schoenicola*; but I have not a specimen now by me wherefrom to draw up its particular characters. Another allied but distinct form may be designated

*Eurycercus*, Nobis. General form diminutive of *Sphenura*, but proportionally much less robust; the bill weaker, slenderer, and more compressed; the rictal bristles feeble and inconsiderable: the feet and claws resemble those of *Sphenura*, but are somewhat less elongated: the wings also are shorter and more rounded, having the fourth, fifth, and sixth primaries subequal and longest, the third equalling the ninth, and the first being half the length of the fourth: the tail-feathers are much broader and softer, and extremely graduated; plumage lax and soft.

*Eu. Burnesii*, Nobis. Length six inches and a quarter, of which the middle tail-feathers are three and three-quarters, the outermost two and one-eighth less, and breadth of middle tail-feathers above half an inch; wing two inches and one-eighth; bill to gape five-eighths of an inch; and tarse three-quarters of an inch. Upper-parts coloured as in the *Malacocerci* generally, or brownish-grey with darker central streaks to the feathers, chiefly apparent on the scapularies and inter-scapularies; tail very faintly barred, only discernibly so in certain lights, having no subterminal band or white tip; under-parts whitish, tinged with fulvescent on the flanks; a shade of the same also on the sides of the neck, where the mesial streaks to the feathers are tolerably distinct; under tail-coverts ferruginous: the upper mandible of the bill is dusky-horn above, the lower yellowish-white; legs yellowish-brown. Inhabits the Indus territories, where obtained by the late Sir Alexander Burnes and Dr. Lord.\*

\* Both this and the preceding genus are distinct from *Sphenæacus*, Strickland, founded on the *Fluteur* of Levaillant, figured as *Mulurus africanus* in Swainson's 'Zoological' Illustrations. *Sphenæacus* should be placed next to *Sphenura*.



The *Suya criniger*, Hodgson, (*As. Res.* xix, 183,) may next be introduced, a form which connects *Sphenura* and its allies with *Prinia*, being again much related to *Malacocercus chatarrhea*: and hereabouts should probably also range the *Cossyphus minutus*, Dumeril, briefly described in the *Dict. Class.* to have "the upper-parts brown; head rayed longitudinally with rufous and brown; under-parts fulvous-grey, with a white throat: length four inches and a half:" and inhabiting India.

The various Indian *Priniæ* are perfectly identical as a group with the African *Drymoicæ* of Swainson, numerous species of which are figured by Dr. A. Smith and by Ruppell, and two or three by Levaillant. Ruppell, or rather his editor Dr. Cretzschmar, adopts *Prinia* (in the 'Neue Wirbelthiere'); but Dr. Smith employs *Drymoica* for the whole series, including the *Pinc-pinc* of Levaillant, upon which Swainson founded his *Hemipteryx*. Referring to Mr. G. R. Gray's 'List of the Genera of Birds', 2nd edit., I find *le Capocier* of Levaillant (*Sylvia macroura*, Lath., v. *Malurus capensis*, Stephens,) cited as the type of the genus, and the date given so far back as 1827; but this must be a typographical error for 1837, when *Drymoica* appears to have been first defined by Mr. Swainson in his classification of Birds published in Lardner's Cyclopædia; at least, there is no mention of the group in Swainson's remarks on the *Sylviadæ* in the 'Fauna Americana-borealis,' II, 201, (1831,) nor in the notice accompanying his figure of *Prinia familiaris*, Horsfield, in the "Zool. Ill.," 2nd series, Vol. III, (1832-3.) In the 'Classification of Birds,' the same author suggests that *Prinia familiaris*, Horsf., is probably an aberrant species of *Orthotomus*; and gives, as the types of *Drymoica*, firstly, *Sylvia cysticola*, Tem., and secondly, Levaillant's *Capocier*: but the former of these, if considered separable, (and if 1837 be the true date of *Drymoica*,) must rank as *Cysticola schænicola*, (Bonap.) Lesson, who elevated it to the rank of a subdivision in 1831; and the latter would appear to be a true *Prinia*, Horsfield, (1820,) whence the name *Drymoica* becomes inadmissible. To judge from the coloured figures, it would seem that the various African species effect a complete transition from *Prinia* into *Cysticola*, which latter is rather an aberrant form of *Prinia* than a distinct natural group, the particular aberration attaining its ultimum in *Hemipteryx*, Sw. I shall follow Dr. A. Smith in uniting the entire series,

as Mr. Jerdon and others have done with the Indian species, which are as follow :—

1. *Pr. sylvatica*, Jerdon, *Madr. Jl.* XI, 4. This is one of the most *Timalia*-like, having the bill comparatively deep and compressed. It inhabits the Neilgherries.

2. *Pr. socialis*, Sykes, *P. Z. S.* 1832, p. 89. Indian peninsula. Probably also Bengal, as it is figured in one of Buchanan's drawings, by the name *Sylvia kalaphutki*, *i. e.* 'Black Phutky (or Foodkey, apud Latham,) a name by which this tribe is generally known to the natives of India.

3. *Pr. flaviventris*; *Orthotomus flaviventris*, Delessert, *Souv.* pt. II, 30. Neilgherries; Bengal, Tenasserim, Singapore.\* The *Motacilla olivacea*, Raffles, *Lin. Trans.* XIII, 313, is probably allied to this.

4. *Pr. inornata*, Sykes, *P. Z. S.* 1832, p. 89. Very common in the Indian Peninsula, in Bengal, and also in Nepal. The wing varies in length from an inch and three-quarters, or even less, to two inches, and this in specimens from the same locality. That described as new in XI, 883, is, I now think, but a variety of the present species.

5. *Pr. Franklinii*, Nobis; *Pr. macroura*, Franklin, *P. Z. S.* 1831, p. 118, but not *Pr. macroura*, (Latham,) founded on the *Capocier* of Levaillant. "Closely allied to the last, though perfectly distinct; differing in the more reddish or fawn tint of the brown, and the more rufous tint of the white. It is much more rare than the last, and prefers more jungly and wooded places." Jerdon. *Non vidi*.

6. *Pr. Buchanani*, Nobis; *Pr. rufifrons*, Jerdon, *Madras Jl.* XI, 4, but not of Ruppell. Southern India. Probably also Bengal, as it is figured by Buchanan Hamilton.

7. *Pr. Hodgsonii*, Nobis; *Pr. gracilis*, Franklin, *P. Z. S.* 1831, p. 119, but not *Malurus gracilis* of Ruppell, (figured also by Savigny,) which pertains to the present group. A Nepalese specimen forwarded by Mr. Hodgson, appears perfectly identical in species with one from Southern India presented by Mr. Jerdon.

8. *Pr. lepida*, Nobis. A delicate little species, with the colouring of a *Malacocercus*. Length four inches and three-quarters, of which the

\* At least, M. Delessert's description of the Neilgherry bird applies to specimens from the vicinity of Calcutta and from Tenasserim and Singapore; and M. Delessert, to whom I have shewn the latter, thinks them identical in species: but actual comparison is still necessary to confirm this.

middle tail-feathers are two and a half; wing an inch and three-quarters; bill to gape half an inch, and tarse five-eighths of an inch. Upper parts light brownish-grey, with central dark lines to the feathers; wing-coverts and tertials edged paler, the latter faintly rayed: tail distinctly rayed and tipped as usual: a whitish streak over the lores; and the whole under-parts slightly yellowish white: bill dark brown; legs pale. Indus territories. Sir A. Burnes.

9. *Pr. cysticola* (?); *Sylvia cysticola* (?), Tem.; *Cysticola schænicola* (?), Bonap.) Lesson; *Prinia cursitans*, Franklin, *P. Z. S.* 1831, p. 118.\* In Griffith's 'Animal Kingdom,' VI, 467, the *Sylvia cysticola*, Tem., is mentioned to inhabit "India (Gen. Hardwicke)," as well as Southern Europe: and previously to observing this statement, I had provisionally identified the present species with it. It varies a good deal in length of wing. Mr. Jerdon gives this as two inches, and such is the measurement of the wing of one specimen sent by Mr. Hodgson, while that of another from the same quarter barely exceeds an inch and three-quarters, and the wing of one sent by Mr. Jerdon is only an inch and five-eighths in length: these three have the crown longitudinally striated like the back; and Mr. Jerdon's bird is more fulvescent than the others, especially on the under-parts. In another from Mr. Hodgson the striation of the crown is less distinct, the wing measuring two inches; while in three others from the same naturalist the crown is almost uniform brown, and the rump of these is brighter fulvous; the wing of one measuring as much as two inches and a quarter, and of the other two inches. I incline to consider all identical in species;† but should Mr. Hodgson's prove distinct, he proposes the specific appellation *subhemalayana*.

In immediate contiguity to these *Priniæ*, ranges the genus *Orthotomus* (or Tailor-bird), whereof I believe there is but one Indian species, the adult of which was termed *O. Bennetti* by Sykes, while the young constitutes his *O. lingoo*: this bird, following Mr. Strickland, "should be called *O. longicauda*. I consider it," he adds, "to be the *Motacilla longicauda*, and *sutoria* (imperfectly described), of Gmelin;

\* A figure of this species is given in the 1st No. of Mr. Jerdon's 'Illustrations of Indian Ornithology.'

† A contrary opinion is expressed in XI, 884, at the period of writing which, I had fewer specimens whereupon to found a conclusion.



*Sylvia guzuratta*, Lath. ; *Orthotomus sphenurus*, Swainson ; and *Sylvia rubicapilla*, Hutton," Elsewhere he remarks, of the Malayan species, "according to my observation, the *Edela ruficeps*, Lesson, (*Orthotomus edela*, Tem. p. c. 599, f. 2,) is the same as *Motacilla sepium*, Raffles, but is not the *Orthotomus sepium* of Horsfield.\*

The true *Timaliæ*, with which the *Malacocerci* have been often arranged, are chiefly a Malayan group, and several presumed new species from Singapore have been described by me in *J. A. S.* XI, 793 *et seq.*† One common Malayan species, *T. pileata*, Horsf., extends into Assam, Nepal, and Bengal generally ; and there is also one allied to *T. gularis*, Horsf., (which latter is common in Tenasserim,) the *T. chloris*, XI, 794, this being the type of Mr. Hodgson's *Mixornis*, and, as I suspect, the *Motacilla rubicapilla*, Tickell, *J. A. S.*, X, 576. I am aware of no other Indian species of true *Timalia*, unless *T. hyperythra*, Franklin, be retained in it ; but the following group is considerably allied :—

*Stachyris*, Hodgson. Beak moderately slender, straight, compressed, and tapering sharp to the extremity, where the tip of the upper mandible has a very slight downward inclination, with little or no trace of a notch ; nostrils almost closed by an impending scale ; and rictus nearly smooth. Tarse of mean length and strength, the outer and inner front toes subequal ; and claws moderate. Wings rounded, the 5th, 6th, and 7th primaries equal and longest : exterior three or four pairs of tail-feathers graduated. Crown subcrested, the feathers of this part semi-erect and more or less divergent.

1. *St. nigriceps*, Hodgson. Length five inches and a half, of wing two and a quarter, and tail two inches : bill to gape eleven-sixteenths of an inch ; and tarse above three-quarters of an inch. Upper-parts

\* *Ann. and Mag. Nat. Hist.* 1842, p. 371, and 1844, p. 35. Accordingly, the Indian Tailor-bird would rank as *O. longicauda* ; that of Sumatra as *O. edela* ; the Javanese species as *O. sepium* ; and Mr. Swainson describes a fourth, from the S. W. coast of Australia, as *O. longirostris*. Mr. Strickland, who has recently examined the specimens upon which Col. Sykes and Dr. Horsfield founded their descriptions, writes me word ; that "*Orthotomus lingoo*, Sykes, seems to be the young of his *O. Bennetti* ; but I may be wrong," he adds : and he mentions that "*O. sepium* has the whole head and chin rufous, breast olive-brown, belly cream-colour, upper-parts olive :—not *Mot. sepium*, Raffles."

† One or more of these are probably identical with the Sumatran, *T. lugubris*, *T. mitrata*, or *T. striolata*, of M. M. Müller and Temminck, *Tydschrijf voor natuurlyke geschiedenis*, &c. (44 to 1835,) the descriptions of which I have not seen.

olive-brown, the lower paler and rufescent; crown, throat, and face, dusky-black, the coronal feathers laterally margined with whitish-grey; chin somewhat albescent, and a white moustache from the base of the lower mandible: bill dusky-horn above, the lower mandible whitish; and legs pale. Nepal.

2. *St. pyrrhops*, Hodgson. Length about five inches, of wing two inches, and tail the same: bill to gape five-eighths of an inch; and tarse three-quarters of an inch. Upper-parts slightly greenish olivaceous, tinged with rufous on the head; below rufescent, more or less brown; lores and chin black, a pale line impending the latter: beak brown; and legs pale, probably greenish. The young differ only in the looser texture of their feathers. Nepal.

3. *St. chrysæa*, Hodgson. Length four inches and a quarter, of wing two inches, and tail an inch and seven-eighths: bill from gape nine-sixteenths of an inch, and tarse eleven-sixteenths. Upper-parts yellowish-olivaceous, the lower bright yellow; wings and tail dusky, margined with the colour of the back; forehead and crown yellow, the latter with black central streaks to the feathers; lores black; bill plumbeous; and legs pale yellowish. Nepal, Arracan.

4? The *Ægitalus flammiceps*, Burton, *P. Z. S.* 1835, p. 153, may perhaps belong to this group.

*Erpornis*, Hodgson. Combines the bill and crested crown of the preceding with the wings and tail of *Iora*.\*

\* Mr. Hodgson sends the following diagnostics of his genera *Stachyris*, *Erpornis*, and *Mixornis*.

"*Stachyris*, Mihi. (*Certhianæ*? *Leiotrichanæ*? *Parianæ*? [I do not hesitate to place it as above.—E. B.] Bill equal to head, very strong, pointed, and trenchant; tips equal and entire; its form conico-compressed and higher than broad, with culmen raised between prolonged nareal fossæ. Nares basal, lateral, with ovoid postæal aperture, the front being closed by the very salient rude scale above. Gape smooth. Frontlet rigid. Tongue cartilaginous, bifid, simple. Legs and feet very strong, suited to creeping and climbing in inverted strained positions. Tarse very stout, longer than any toe or nail. Toes short, unequal, depressed, basally connected, the hind stoutest and exceeding the inner fore. Nails very falcate and acute. Wings short, feeble, the first four primaries much graduated, the four next subequal. Tail medial, simple, firm.

"Type *St. nigriceps*. Sylvan, shy; creeps among foliage, buds and flowers, like *Zosterops* and *Orthotomus*; feeds on minute hard insects and their eggs and larvæ. Habitat, hills exclusively, central region chiefly. Sexes alike.

"*Erpornis*, Mihi ( $\epsilon\rho\pi\omega$ , to creep]. Close to the last form. Bill medial, conico-compressed, strong, straight, scarpt, pointed; the tip of the upper mandible rather

*Erp. zantholeuca*, Hodgson. Length about five inches, of wing two and a half, and tail an inch and seven-eighths: bill to gape five-eighths of an inch, and tarse the same. Entire upper-parts light olive-green, the lower dull white; coronal feathers elongated and spatulate: bill dusky yellowish-brown, and feet pale. Young having looser feathers, those of the crown not spatulate, and general colour of the upper-parts weaker and somewhat rufescent. Nepâl; common in Arracan, and occurs also in the Malay peninsula.

*Iora*, Horsfield. There are three distinct species of this genus, which have been erroneously considered identical; viz.

1. *I. zeylonica*; *Motacilla zeylonica*, Gmelin; *I. meliceps*, apud Horsfield, *J. A. S.*, X, 50. Inhabits the Indian peninsula, and is at once distinguished by the jetty-black cap of the male, with more or less of this colour margining the dorsal plumage; tail also margined with yellowish-white, with often traces of green towards the extremities of the feathers.

2. *I. typhia*; *Motacilla typhia*, Lin. Inhabits Bengal, Nepal, Assam, and Arracan, being somewhat rare in the last-named province. Has no black except on the wings and tail of the male, though a dusky tinge is often perceptible on the crown and back of the male. One specimen only, of many dozens obtained in the vicinity of Calcutta during the height of the breeding season, has the hinder half of the crown

longer and notched. Nares elliptic, lateral, free, and placed in a membranous groove, with small process above the aperture. Tongue cartilaginous, simple. Wings medial, round, acuminate, firm, the fifth primary longest, first small. Tail subfurcate, simple. Legs and feet strong and repertatory, feebler than in *Stachyris*, but otherwise similar.

"Type, *Erp. zantholeuca*. Hab. central region. Sexes alike. Structure and habits passing from those of last towards those of *Zosterops*, by the notched bill, stronger wings, shorter feet, and furcate tail.

"*Mixornis*, Mihi (μῆτις, compound]. Still near the last, but tending to *Iora*. Bill rather plus bead, elongate, conic, but culmen and commissure inclining to arch: base subdepressed, gradually attenuated to blunt tip: upper mandible barely longer, or notched. Tomiæ scarpt, erect, entire. Nares ovoid, free, fossed, shaded behind by fossal membrane. Wings submedial, rounded, the fifth and sixth primaries subequal and longest; four first consecutively graduated. Tail medial, rounded, simple. Legs and feet suited to creeping and clinging. Tarsus smooth, strong, rather plus any toe. Toes short, unequal, depressed, basally connected: bind large, and in length equal to outer fore. Nails highly curved and acute.

"Type *M. chloris* [*Timalia* and *Iora chloris*, XI, 794; closely allied to *T. gularis*, Horsfield]. Hab. Lower bills. Sexes alike. Sby and exclusively arboreal. Essentially linked to the two last by its powerful bill and creeping feet, but leans towards *Iora* and Sylvian forms in the depression of the base of the bill."

black, with but a slight admixture of yellow, and appears as if it had been assuming the colouring of *I. zeylonica* by a change of hue in the feathers; but there is reason to suppose that this may have been a hybrid between the present and the preceding species. Mr. Jerdon, to whom I suggested their identity, upon the authority of the specimen in question, remarks, that "I think your first opinion of their distinctness will still hold good, at least the males have always some black here [in the South of India], though at one time I thought not," by which I presume he means some black upon the head. Certainly, I have tried much, in vain, to obtain a second specimen thus characterized. The females have the tail of the same colour as the back, more or less infuscated, and the dark portion of the wings merely dusky. I do not perceive that they can be distinguished with certainty from the females of the preceding species, though the darkened tail is a tolerable criterion, so far as I have observed.

3. *I. scapularis*, Horsfield. Inhabits the Malay countries. Colour considerably greener than in the others (as represented in Dr. Horsfield's figure), especially upon the head; and the white on the wings less developed. I have only seen females.

Another genus which appears to me to belong to the great *Timalia* group, is the *Cutia* of Mr. Hodgson, *J. A. S.*, V, 771, as was first suggested to me by Mr. Frith: and there is a difficult series of species with more Thrush-like or Warbler-like bills, but which are likewise referrible to the same subfamily, exemplified by the genera *Brachypteryx*, Horsfield, *Macronous*, Jardine and Selby, and *Malacopteron*, Eyton, all of which much require elucidation.

The genus *Brachypteryx* (*Lin. Trans.* XIII, 157,) was founded on two Javanese species, to the first of which it has since been restricted; and though several others have been referred to it by different authors, (as *Br. nigrocapitata*, Eyton, *P. Z. S.* 1839, p. 103,—*Br. atriceps*, Jerdon, and *Br. bicolor*, Lesson, *Rev. Zool. &c.* 1839, p. 138,) it would appear that all of these, with the *Br. sepiaria* of Dr. Horsfield, exhibit more of the characters of *Malacopteron*, Eyton, (*P. Z. S.* 1839, p. 102), with which Mr. Strickland identifies my *Trichastoma* (*J. A. S.*, XI, 795). To the same group must likewise be assigned the *Timalia poiocephala* of Jerdon's Supplement. In the first edition of Mr. G. R. Gray's 'List of the Genera of Birds,' the name *Brachypteryx* is



stated to have been pre-employed in Entomology, and *Goldana* is substituted for it; but in the second edition of that work, the former appellation is restored to Ornithology.

The very curious species upon which the genus *Macronous* was founded, has more the character of the true *Timaliæ* than any of those which follow, and has been described in *J. A. S. XI*, 795.

Next to it, I had arranged a bird which has recently been described by Mr. Strickland by the name *Malacopteron macrodactylum* (*Ann. and Mag. Nat. Hist.* 1844, p. 417), but I still consider it to merit separation, from the general robustness of its conformation, and the great strength of the tarse and of the middle and hind toes. The bill closely resembles that of *Macronous*. I designate it

*Turdinus*, Nobis. Form somewhat Meruline, thick-set, with large strong legs and toes, and rounded wings and tail. Bill as long as the head, moderately stout, straight, compressed, the ridge of the upper mandible angulated, its tip emarginated, and curving over that of the lower mandible; nostrils oval, and pierced in the fore-part of the nasal membrane, at some distance from the frontal feathers; rictus well armed: legs stout, the tarse equalling the middle toe with its claw; outer and inner toes equal, and proportionally small, their terminal joint reaching only to the penultimate joint of the middle toe; hind toe strong, and furnished with a rather large claw, but moderately curved: wings much graduated, the fifth to the ninth primaries inclusive subequal and longest, the first about half their length; tail also graduated externally, and hollowed underneath; plumage lax and scale-like, at least on the upper-parts, very copious and puffy over the rump.

*T. macrodactylus*, (Strickland) Blyth. Length about seven inches (making allowance for the manner in which the skins which I have seen have been prepared), of wing three and a half, and tail two and a half; bill to gape an inch; tarse an inch and one-eighth; hind-toe and claw seven-eighths. Colour a rich brown above, generally darker on the crown, the centres of the feathers paler, and their margins black; rump inclining to rusty, and devoid of marking: wings and tail also plain rusty-brown, darkening on the latter: throat white, with the shaft of each feather blackish, terminating in a slight spot more developed towards the breast; rest of the under-parts confusedly mottled,

the abdominal feathers dull white, laterally marked with greyish, the breast and flanks nearly resembling the back, and the under tail-coverts rusty-brown : bill dark horn-colour, and legs and toes brown, the claws pale. Brought from Singapore.

*Malacopteron*, Eyton, *P. Z. S.* 1839, p. 103, founded on two species, *M. magnum* and *M. cinereum*, Eyton, to which, according to Mr. Strickland (*An. and Mag. Nat. Hist.* 1844, p. 35), my *Trichastoma rostratum* and *Tr. affine*, *J. A. S.* XI, 795, must be referred ; an identification which I suspect holds true in neither instance, further than as regards the genus. With the series of species before me, I find it necessary to restrict the group *Malacopteron* to those species which, as stated by Mr. Eyton, have the bill about equal to the head in length.

1. *M. magnum*. Eyton. Described to have the forehead and tail ferruginous, the neck black, the back, and a streak across the breast, cinereous ; wings brown, and bill yellow. Length six inches ; of bill seven-twelfths of an inch, and tarse nine-twelfths. Female smaller, with the head and neck ferruginous, spotted or mottled with black. Inhabits the Malay peninsula.

2. *M. ferruginosum*, Nobis. Bill somewhat thicker and more Fly-catcher-like than in the others, and the wings comparatively longer. Length about seven inches, of wing three and a quarter, and tail two and three-quarters : bill to gape an inch ; tarse an inch and one-sixteenth ; hind-toe and claw three-quarters of an inch, the latter very large, being double the size of the middle front claw. Colour of the upper-parts ferruginous-brown, purer dull ferruginous on the crown and wings, and much brighter ferruginous on the tail ; coronal feathers of different texture from the rest, being somewhat broad, with disunited webs, inconspicuously squamate : under-parts much paler, the throat and belly white ; lores albescent, contrasting with the rufous hue of the crown. Bill dusky-brownish above, pale and yellowish below ; and legs light brown. Probably from Singapore.

3. *M. rostratum* ; *Trichastoma rostratum*, Nobis, *passim*. I have nothing to add to the description before given of this species, to which that by Mr. Eyton of *M. magnum* does not apply. Its form is less robust than that of the preceding species.



*Alcippe*, Nobis. Has the bill much shorter than the head, approaching nearly in form to that of *Leiothrix*: in other respects resembling the foregoing; but the toes generally are small and proportionate.

1. *A. cinerea*? (Eyton). A species which, from the name, I suspect must be this, differs from the next in its predominating more ashy tinge, having the crown, neck, and back, uniform dusky greyish-brown, the wings and rump tinged with fulvous, tail darker and inclining to dingy maronne, but still fulvescent in some lights, and the under-parts whitish, tinged on the throat and breast with ashy; bill light horn-colour, and feet pale. Length about five inches and a half, of wing two and five-eighths, and tail two and a quarter; bill to gape eleven-sixteenths of an inch, and tarse three-quarters of an inch. The tail, also, is less rounded, and the tips of its feathers are less wedge-shaped, than in the next species. Received from Singapore.

2. *A. affinis*; *Trichastoma affine*, Nobis, *passim*. Distinguished from the preceding by its darker crown, paler nape, the more rufescent hue of the back and rump, and deep ferruginous tail-feathers; the under-parts are whiter, with a distinct brownish-grey band crossing the breast. This species could scarcely have been designated *cinerea*, which name is appropriate in the instance of the preceding one.

3. *A. poiocephala*; *Timalia poiocephala*, Jerdon, *Supplement to Catalogue*. This considerably approaches *Siva nipalensis*, Hodgson, of the *Leiotrichane* series; and has the rictal bristles less elongated, and the feet stouter, with a more robust hind-toe, than in the foregoing. The colour is olive, passing to dark russet on the rump, tail, and wings; the crown ashy; and under-parts pale rufescent. Inhabits Southern India.

4. *A. atriceps*; *Brachypteryx atriceps*, Jerdon. Rictal bristles still shorter; the crown and ear-coverts black; the rest of the upper-parts fulvescent-brown, and under-parts white, passing into brownish on the flanks. Legs apparently have been lead-coloured. Inhabits Southern India.

The two next would seem to approach the second species, but cannot well be identified with it, nor with each other. The length of both is given as five inches only.

5. *A. (?) sepiaria*; *Brachypteryx sepiaria*, Horsfield. "Olivaceo subfulvescens, subtus dilutior, gula abdomineque medio albidis Remiges

et rectrices badio-fuscae, externae fere badiae; rectrices duae mediae concolores. Crissum badio testaceum." Hab. Java.

6. *A. (?) bicolor*; *Brachypteryx bicolor*, Lesson, *Rev. Zool. de la Soc. Cuv.*, 1838, p. 138. "Corpore supra, sincipite, genis caudaque brunneospadiceis; gula, collo, thorace, abdomineque albo sericeo; tibiarium plumis castaneis. Rostro livido; pedibus *subincarnatis*." Hab. Sumatra.

The *Brachypteryx nigrocapitata*, Eyton, is rather a peculiar species, intermediate in development of bill to *Malacopteron* and *Alcippe*, but having the lengthened rictal vibrissae characteristic of those divisions little more than rudimentary. It is described in *J. A. S.*, XI, 796.

*Setaria*, Nobis. Very close to *Alcippe*, but cannot exactly be arranged therein. Bill shorter than the head, moderately stout, somewhat depressed at base, a little compressed beyond the nostrils, the upper mandible slightly emarginated, its ridge angulated throughout, and the tips of both distinctly accurved: rictus armed with large setae, which are particularly strong and firm towards their base, offering much resistance; the frontal feathers also are erect and rigid to the feel, and especially those which surmount the loreal region. Wings of mean length, having the fifth and sixth primaries longest: tail also of mean length, a little graduated externally. Feet moderately stout, the outermost toe exceeding the inner one in length, the hind toe and claw large and strong, equalling in length the middle toe with its claw, and all the claws moderately curved. Plumage lax, but squamate upon the crown, copious and puffy over the rump.

*S. albogularis*, Nobis. Length about five inches and a quarter, of wing two and three-quarters, and tail two and a quarter; bill to forehead half an inch, to gape eleven-sixteenths of an inch; tarse three-quarters of an inch; hind toe and claw above five-eighths of an inch. Upper-parts olive brown, tinged with rufous on the rump; head, including ear-coverts, dark ash-colour, with a white streak over but not beyond the eye, and meeting its opposite above the base of the bill; lores black; throat white; an ash-coloured band across the breast; flanks and under tail-coverts rufescent, and belly white slightly tinged with the same: bill black above, beneath whitish; and feet have probably been greenish. Received from Singapore.

The following very distinct form among the Flycatchers is also believed to be from the same quarter.

*Iole*, Nobis, n. g. Allied to *Muscipeta*, and especially to my *M. plumosa* (*J. A. S.* XI, 791), but the beak much less widened, being nearly similar to that of *Trichastoma ferruginosum* (hereinbefore described.) Bill of moderate length and strength, undepressed, and scarcely compressed, narrowing evenly to the tip, the ridge of the upper mandible angulated throughout, and its tip slightly overhanging that of the lower mandible, and distinctly emarginated; nostrils fissured in the lower part of the nasal membrane; gape well armed. Feet as in *Muscipeta*, but rather stouter, the outer front toe and claw barely exceeding in length the innermost. Wings of mean length, graduated, the fourth, fifth, and sixth primaries subequal and longest, and the seventh exceeding the third: tail slightly rounded. Plumage soft, and excessively dense and copious over the rump; the crown (at least in the species described,) subcrested, with pointed feathers much as in *Hypsipetes*.

*I. olivacea*, Nobis. Length about six inches and three-quarters, of wing three and a quarter, and tail three inches; bill to gape seven-eighths of an inch; tarse five-eighths of an inch; hind-toe and claw seven-sixteenths. Colour of the upper-parts deep olive-brown, with a slight greenish tinge, which latter is wanting on the tail, and is scarcely visible on the subcrested head: under-parts much paler, passing into dull yellowish-white on the belly, and darker on the sides of the breast. Bill dark corneous above, the lower mandible pale; and feet light brown.

*Muscicapa leucogastra*, Nobis. Length about six inches, of wing three, and tail two and a quarter; bill to frontal feathers half an inch, and tarse nearly five-eighths. Head, throat, front and sides of the neck, ear-coverts, and breast, glossy-black; nape, scapularies, interscapularies, wings and tail, dusky greyish-brown; the rump purer grey; and belly and under tail-coverts white, slightly tinged with fulvous. Bill black; and legs, in the dry specimen, dusky. Probably Malayan, but perhaps Chinese.

*M. rubecula*, Nobis.\* Length six inches and a half, or more, of wing three and five-eighths, and tail three and one-eighth; bill to frontal feathers above half an inch, and tarse five-eighths of an inch. Head, including ear-coverts, glossy dull black; scapularies

\* The *M. rubecula*, Sw., is a female *Cyornis*, vide p. 390.

and interscapularies ashy-brown ; the rump dark grey ; wings and tail dusky-brown, the outermost feather of the latter slightly albescent : throat, fore-neck, and breast, bright ferruginous ; the belly and under tail-coverts fulvescent-white. Bill dark horn-colour, and legs appear to have been leaden-brown.

A supposed young female is smaller, having the wing but three inches, and tail two and three quarters. The nestling garb appears to be retained about the nape, where the feathers are of open texture, and of a light brown colour. Crown and ear-coverts dark ashy ; and the colours generally are less deep, the breast being of a much weaker ferruginous, still more diluted on the throat. Bill imperfect, and what remains of it induces me rather to doubt the specific identity of this with the preceding specimen. Both, with *M. leucogastra*, have the bill remarkably broad at base, and approximating the *Muscipetæ*.

*Vanellus leucurus* (?) ; *Charadrius leucurus* (?), Lichtenstein, mentioned in Griffith's work to inhabit Tartary, as well as Egypt and Nubia. I have obtained a single specimen in the Calcutta bazar of a species which I doubt not is the Tartarian bird here alluded to,\* but whether perfectly identical with the African species is more doubtful. As compared with the figure in the great French work on Egypt, this Asiatic specimen differs in having no trace of the rufous-isabelline tint represented, beyond a mere blush of this hue on the abdominal region, and there is no defined grey patch on the breast. Length (of a female) eleven inches, by twenty-three inches in alar expanse ; wing seven inches ; tail two and three-quarters ; bill to forehead an inch and one-eighth ; tarse two inches and five-eighths. Irides reddish-amber ; bill black, and legs and toes bright yellow, the claws black. General colour brownish-grey, with a reddish-purple gloss on the mantle, extending over the tertiaries ; head and neck browner and glossless, the throat and around the bill white ; breast more ashy, the feathers margined paler ; rest of the under-parts, with the tail and its upper coverts, white, the belly and flanks conspicuously tinged with dull rosy, or a roseate-cream hue ; primaries and their coverts black, the secondaries and their coverts largely tipped

\* Here may be mentioned that I have likewise procured a beautiful fresh specimen of the *Anas formosa*, Gmelin, shot on the salt-water lake near Calcutta, which species is described to frequent Lake Baikal, and was unknown to Mr. Hodgson who had never met with it in Nepal. The tracheal bony vesicle is but slightly developed.

with white, and having a black bar above the white ; rest of the wing-coverts like the back.

The general colour of this species approaches that of the *Lobivanellus cinereus*, Nobis (XI, 587), which latter is perhaps the *Vanellus keptuschka*, Tem., of a catalogue of Bengal birds published in the *An. and Mag. Nat. Hist.* 1843, p. 447, as it sufficiently agrees with the brief description of *Charadrius keptuschka*, Lepech., in Griffith's work, where, as synonyms, are attached the *Tringa fasciata*, Gmelin, as the female, and *Ch. gregarius*, Pallas, as the young. The same synonyms are, however, annexed in a paper by Prof Brandt, 'On certain Siberian birds described by Latham,' published in the *An. and Mag. Nat. Hist.* 1843, p. 114, where it is added that the 'Black-sided Sandpiper' of Hardwicke's published drawings "seems to belong to this species," being, on the other hand, very different from my *cinereus*. Cawnpore is mentioned on Hardwicke's plate as the locality where his two specimens were obtained, and Mr. Frith tells me, that he also has met with the same species in Bengal ; but it has not hitherto occurred to me, nor to Mr. Jerdon in the South of India. In the same list of Bengal specimens, *Vanellus cristatus* is also mentioned, a species which is common along the Indus, and is included in Mr. Hodgson's MS. catalogue of Nepalese birds ; but this also I have not yet met with here, neither have I hitherto obtained the *Hoplopterus ventralis* in this vicinity ; but I have procured two examples only of *Sarciophorus bilobus*\* : *Lobivanellus goensis* is very common, and *L. cinereus* far from rare. For an arrangement of this Lapwing group, vide *P. Z. S.* 1841, p. 42.

*Totanus brevipes*, Vieillot (apud Drapiez, *Dict. Class. d'Hist. Nat.* III, 572. "Patrie inconnue"). The Society possess an old specimen of a Sandpiper which I think may be referred to this, though rather superior in dimensions to those assigned in the work cited. It is not very unlike the Green Sandpiper (*T. ochropus*), but is larger, with no white over or upon the tail, and remarkably short legs. Length about nine inches and a half ; of wing six inches, and tail two and a half ; bill to forehead an inch and a half ; and tarse under an inch and a quarter. Colour of the upper-parts uniform dingy olive-

\* Recently, (in September and October 1844,) several fresh examples of this species have occurred.



brown, the small wing-feathers having a subterminal faint dusky bar, and slightly tipped with albescent; primaries dusky-brown: throat, fore-neck, and breast, paler than the upper-parts; the belly and under tail-coverts white: a whitish line also from the beak to the eye above it, and a darker one bordering it below on the lores. This specimen (with the two *Muscicapæ* just described,) formed part of a collection made at Macao, but comprising many Malayan species; and it is probably Chinese. Eight inches (French) is stated to be the length of M. Vieillot's species; but I have little doubt that the present specimen is correctly referred to it.

*T. solitarius*, Vieillot, apud *Dict. Class.* This is another little-known Sandpiper, from the western coast of South America, intermediate to *T. glottis* and *T. fuscus*. Length about fourteen inches, of wing seven and a half, and tail three inches; bill slender, and two inches and three-eighths to forehead, its tips much accurved; tarse two inches and three-quarters. Upper-parts olive grey, the feathers laterally margined with dusky-black and whitish alternately, forming the extremities of transverse bars which are obsolete in the medial portion of the feather; crown dark, the feathers laterally margined with whitish; neck streaky, the dark colour predominating behind, and the white in front; above the lores, the throat, and the under-parts from the breast, pure white, having some dark streaks and broken bars on the pectoral feathers; primaries dusky; the upper tail-coverts chiefly white; and tail closely barred white and dusky, the colours of its middle feathers blending except on their lateral margins. Bill dark; and the legs appear to have been greenish. Inhabits Chili.

*P. S.*—It is so long since the foregoing Report, and the former portion of its Appendix, were published, that I have now a few further elucidations to offer on some of the groups treated of.

Vol. XII, p. 930. For *Erythrospiza rosea*, read *E. erythrina*, vide Strickland in *An. and Mag. Nat. Hist.*, 1844, p. 38. It is a typically formed species.

*P.* 933. *Corvus rufus*, Lath., is identical with *Crypsirina vagabunda*. *Temnurus leucopterus* seems to be allied to the Drongos, and like them would appear to have only ten tail-feathers.

*P. P.* 941, 1007. Genus *Cyornis*, Nobis. Add, as a fifth species, *Muscicapa pallipes*, Jerdon; and probably as a sixth, *M. indigo*,



Horsfield. The *M. rubecula*, Swainson, would appear rather to be the female of *C. Tickellia*, Nobis, than of *C. banyumas*, in which case the name *rubecula* must stand for the former.

P. 944. *Chrysococcyx lucidus* has now been also received from Arracan: and I have just seen a fine adult from the hilly district of Monghyr, in Bengal.

P. 945. *Centropus dimidiatus*, Nobis. Lately received from Cuttack, and may yet probably turn out to be the final plumage of *C. lepidus*.

*Phænicophaus lucidus*, Vigors, "described in Lady Raffles' Memoir, p. 671," is identical, as I am informed by Dr. Horsfield, with the species No. 18 of my Monograph of eastern *Cuculidæ*, XI, 923, and XII, 246.\*

\* Mr. Strickland has favored me by examining certain specimens of *Cuculidæ* in London, and otherwise aided in reducing the synonyms of the group. "The *Cuculus fluviventris*, Scop., v. *radiatus*, Gm." (vide XI, 900), he informs me, "is a good species. I have a specimen from Malacca, exactly agreeing with Sonnerat's description, except that the tail is not even, but very slightly rounded, with the outermost pair of feathers an inch and a quarter shorter than the rest. It is of the size of *C. fugax*, the beak rather more slender." (Can it be the *C. tenuirostris*, Lesson, referred by me to *C. fugax*, vide XII, 943? In such case, it would doubtless have been confounded with *C. fugax*.) Of the Javanese specimen referred to *C. canorus* by Dr. Horsfield (vide XI, 902), Mr. Strickland writes—"Apparently the same as the European, but I had not a European one to compare with it at the time. It is not the *micropterus*, nor the *fugax*, both of which are at the India House.—*C. pruvata*, Horsfield, = *C. Sonneratii*, Lath., = *C. rufovittatus*, Drapiez" (XI, 906, 911). "I have seen many specimens from Malacca, all in the same plumage, but I never saw any adult-looking bird to which it could be referred. It has a broader beak than any other Cuckoo of the same size.—*Cuc. lugubris* is, I suspect, the same as *dicruroides*. I have a forked-tailed one with the wing four inches and three-quarters long, and an even-tailed one from Malacca with the wings five inches and a quarter, being the reverse of the supposed distinctions between them." To this (vide also XII, 244), I may remark, that several Malayan specimens which I have seen have all been smaller than the Indian ones; and the same relation holds between the Malayan *C. flavus* (of which *C. pyrogaster*, Vieillot, J. A. S. XI, 912, is probably a synonym,) and the Indian bird which I referred to *C. niger* (XI, 908, XII, 940 *et seq.*, 944), but which I now think cannot be the *C. niger*, Lath., founded on the "Black Indian Cuckoo" of Edwards, which, if his figure and description can be depended upon, would seem to be a small species of Coë ( *Eudynamys* ); though in that case I should doubt its occurrence in Bengal. Of *Eudynamys*, too, I must remark that the Australian Coë, referred to *Eu. orientalis* by Messrs. Vigors and Horsfield (vide XI, 913), is considered distinct by Mr. Swainson, who styles it *Eu. australis* ( ' Menag. ' , p. 344 ), and

P. 948. Genus *Garrulax*. *G. rufifrons*, No. 3. There is also a *Crateropus rufifrons*, Sw. ('Menag. '), which is probably identical with M. Lesson's species.

No. 11, *G. melanotis*. Capt. Phayre sent two specimens with  $\frac{1}{2}$  black ear-coverts, such as I have never seen among numerous examples of *G. pectoralis* from the Himalaya; but a third, forwarded subsequently, has an admixture of white on the ear-coverts, though less than in the Himalayan specimens: and hence I now think that the Arracan bird had better be regarded as a variety only of *G. pectoralis*.

Nos. 13, *G. lunaris*, and 14, *G. ruficollis*, are identical, and will retain the latter appellation. The Society has received fine specimens from Tipperah.

No. 29, *G. Delesserti*, is nearly allied to *G. gularis*, No. 8.

Nos. 25, *G. lineatus*, and 26, *G. setafer*, are also, I greatly suspect, identical, in which case the former name must be preserved.

assigns to it considerably larger dimensions. Lastly, I have to observe that the alleged Chusan specimens referred to *Cuc. flavus* in XII, 944 (note), and the *Chrysococcyx chalcites* of the same page, and *Centropus dimidiatus* of p. 945 (note), were obtained, as I have now much reason to suspect, from the vicinity of Singapore, although the former localities were given to me with much positiveness; certainly the specimens were prepared as the Singapore bird-skins usually are, and one in the same lot which was stated to be South American, proves to be the Malayan *Turdus modestus*, Eyton, which Capt. Phayre has since procured in Arracan. But to return to Mr. Strickland's notes: the Malayan *C. flavus*, he remarks, "should more properly stand as *C. merulinus*, Scopoli; and the Australian *C. cineraceus*" (XII, 242) "is very distinct from *merulinus*, being much larger and longer in the wing," &c. For the Indian bird he retains the name *temuirostris*, Gray. "*Cuculus basalis*, Horsf., is identical with immature specimens of *Chrysococcyx lucidus*, from Australia. *Phanicephorus melanognathus*, Horsf., has the nostrils narrow, and the lower mandible black:—not *Cuc. melanagnathus* of Raffles, your *Ph. viridis*" (XI, 927), "which has round nostrils, and a red spot on the lower mandible. The *Cuculus sumatranus*, Raffles, is also distinct from *Ph. Diardi*," (No. 24 of my monograph, XI, 928, vide XII, 246,) "having the belly and lower tail-coverts rufous, and the nostrils narrow, almost linear, and oblique. I have it from Malacca. *Centropus lepidus*" (XI, 1102, XII, 945 note) "is larger (not less, as Horsfield states,) than *C. affinis*, and has the beak stronger and higher. *C. affinis* is the smallest of all the species, the wing measuring but five inches and three-eighths, and tail six and a half. It is certainly the *Cuculus viridis*, Scopoli, founded on Sonnerat's *Voy. Nouv. Guin.*, pl. 80. The curve of the hind claws in Horsfield's specimen is only very slight." May not this be *C. bengalensis*, v. *pumilus*, XI, 1104, XII, 945?

No. 29, *G. Delesserti*, is nearly allied to *G. gularis*, No. 8.

The *Turdus ochrocephalus*, Gm., Horsfield, *Lin. Trans.* XIII, 149, is now doubtfully referred by Dr. Horsfield to this group.

Nos. 1, *G. leucolophos*, and 20, *G. rufogularis*, occur in Sylhet; and the former also in Arracan.

*P. P.* 953 and 958. The genus *Ixops*, as Dr. Horsfield informs me, is identical with *Actinodura*, Gould; and *Sibia* must be retained for *S. picoides* and *S. gracilis*, while *S. nigriceps* should perhaps be separated, and is allied to *Yuhina*, Hodgson, *As. Res.* XIX, 165.

*Leiocincla plumosa* is also an inhabitant of Sylhet; and the *Turdus canorus*, Lin., mentioned in the note, I have now referred to the common *Malacocercus* of Bengal, vide note to p. 368.

*P. P.* 955, *et seq.* The name *Phyllornis* has the priority over *Chloropsis*, and must therefore be adopted. The specimen which I described as the female *Ph. cœsmarhynchus* proves to be a male of the species referred to *Ph. cochinchinensis* by Mr. Jerdon: but it is doubtful whether the latter be the true *cochinchinensis*, Auct., which is described as being "towards the tail and outer edges of the wings blue." Now Mr. Jerdon's species has no trace of blue either on the tail or wings, except the usual verditer patch on the shoulders of the wings, and a tinge of the same on the lesser coverts of old birds, the outer primaries having their external webs more or less yellowish, especially in the females and young. Should it prove distinct, I would propose for it the appellation *Ph. Jerdoni*. The black portion of the throat of this bird is surrounded by dull pale yellow, which is continued up over the forehead.

From Arracan, the Society has received three species of this genus, viz. the Himalayan *Ph. Hardwickii* (v. *curvirostris*, &c.), which is there rare, and the other two common,—*Ph. aurifrons*, and a species which resembles the so-called *Ph. malabaricus* in size and colouring, but has the bill more tapering and pointed, as in those of India. I do not like, however, to venture on separating it from *Ph. malabaricus*. It may be added, that *Chloropsis mysticalis*, Sw., refers to the female of the Malayan *malabaricus*; and *Turdus viridis*, Horsf., (according to Mr. Strickland,) is the female *Ph. Sonneratii*, v. *Meliphaga javensis* of Dr. Horsfield's catalogue.

*P.* 960. *Pitta malaccensis* has, I believe, been already so denomi-

nated by Scopoli.\* *P. nigricollis*, Nobis (of which I suspect *P. rodogaster* to be merely the young), is the *P. cucullata*, Hartlaub, described in the *Rev. Zool*, 1843, p. 65, and recently by Mr. Strickland in the *An. and Mag. Nat. Hist.* 1844, p. 410. Mr. Strickland retains the name *Pitta* for this genus, rejecting *Brachyurus*, Thunberg, which Mr. G. R. Gray proposes should be substituted.

*P.* 963. Genus *Phylloscopus*. All the species described, with the exception of *Ph. magnirostris*, (which I have now reason to suspect is the *Sylvia javanica*, Horsfield), and two or three others in addition to them, have now been obtained by Mr. Jerdon in Southern India. *Ph. tristis*, Nobis, was referred to *Sylvia trochilus* in that gentleman's first catalogue.

*P.* 968. *Culicipeta Burkii*. Add *Cryptolopha auricapilla*, Swainson ('Menag.', p. 343), as another synonym.

*P.* 983. *Diceum Tickelliae*, Nobis, is the *Certhia erythrorhynchus*, Latham; the young bird having a fleshy-red bill, which colour is much exaggerated in one of Buchanan Hamilton's drawings, a duplicate of which was probably Latham's authority for the species. The specific name *erythrorhynchus* is, however, so inappropriate that it can scarcely be retained.

*P.* 985. Magpies. I was wrong in identifying the Chilian species with that of Europe, which latter has since been received by the Society. The other is intermediate in its proportions to *P. bottanensis* and *P. caudata*, and may be termed

*P. media*, Nobis. Exactly similar to the British Magpie, but larger, with proportionally stouter legs, and tail scarcely so long. Length of wing eight inches and a quarter, that of the Bootan species measuring nine and three-quarters, and of the European Magpie but seven inches. Middle tail-feathers ten inches; bill to gape one and seven-eighths; and tarse two inches and one-eighth. Inhabits the Andes. The tertiaries and borders of the secondaries are of a finer steel-purple than in the European species, and the gloss of the tail is greener, with less of a bronze cast. The tail of the Yellow-billed Magpie of Western North America has again a different gloss; and I remember seeing a species smaller than that of Britain among

\* Vide, however, a Note by Mr. Strickland in the 'Annals and Magazine of Natural History' for July 1844, p. 47.

the stores of the Zoological Society, which had a black bill, but the tail was glossed as in the yellow-billed species.

*P.* 990. *Buceros pucoran* should be *B. pusaran*, Raffles. Specimens of both it and *B. plicatus* have lately been received from Arracan, and the former proving to have a yellow gular skin, may now be considered as sufficiently determined.

*P.* 998. *B. gingalensis*, Shaw. This I have since examined, and it seems, with some others, (as the African *B. limbatus* and *B. flavirostris* of Ruppell,) to constitute a particular group of Hornbills, which may some day rank as a subgenus.

"*Halcyon smyrnensis*, var. ? *albogularis*," is identified by Mr. Strickland with *H. gularis*, (Kuhl); *H. ruficollis*, Sw.; and *H. melanoptera*, Tem.: a species which was procured in the Philippine Islands by Mr. Cuming.

*P.* 1000. *Picus (Gecinus) viridanus*, Nobis. The female has the crown and *pileus* wholly black, the ear-coverts and sides of the neck are darker than in the male, and the entire plumage is more dingy, with the marking of the under-parts less defined.

*P.* 1005. *Picus (Chrysocolaptes) melanotus* is the *Dendrocopus Elliotti* of Mr. Jerdon's catalogue, and perhaps also identical with *P. strenuus*, Gould, obtained by Dr. McClelland in Assam. For the present it will range as *Chrysocolaptes Elliotti*. The female differs in having the frontal feathers to above the eye broadly tipped with whitish, and the crest glistening bright yellow, with a tinge of red at its extremity.

*P.* 1008. The two Barbets mentioned are the *Bucco viridis*, Gm., and *B. zeylanicus*, Auct, v. *caniceps*, Franklin, v. *lineatus*, Tickell.

*P.* 1010. The *Fringilla agilis*, Tickell, *Pipra squalida*, Burton, and *Parisoma vireoides*, Jerdon, prove to be the same species, which must be distinct from *Pardalotus pipra* of Lesson, to judge from the generic characters which he assigns to the latter, upon which is founded his genus *Idopleura*, Rev. Zool. &c. 1838, p. 44.\* The present species I distinguish as follows:—

*Piprisoma*, Nobis, n. g. Bill short and subconical, acutely triangular as viewed from above, the ridge of the upper mandible angulated,

\* There is a *Pardalotus maculatus*, Tem, p. c. 600, from Sumatra and Borneo, which may perhaps be referable to either *Idopleura* or *Piprisoma*.



and that of the lower slightly but distinctly so ; the outlines of both accurved, of the lower somewhat more abruptly (being tumid at base towards the divarication of its two lateral rami), and the tip of the upper overhangs that of the lower mandible, but without showing any marked terminal bend ; nostrils almost closed by the nasal membrane ; gape unarmed. Feet formed for perching, and rather small than otherwise, the tarse equalling the middle toe with its claw, the outer and middle toes connected to the first joint, and the claws compressed, and moderately hooked, as in the more typical perchers. Wings reaching to the end of the tail, which is rather short ; and having the first primary exceedingly minute, and the four next equal and longest : tail even. Plumage sombre and unadorned.

*P. agilis*, (Tickell,) Nobis. Length four inches,\* of wing two and a quarter, and tail one and one-eighth ; bill to gape three-eighths of an inch, and tarse half an inch. Colour dull ashen-olive, tinged with green upon the rump and upper tail-coverts, and margining the greater wing-feathers ; beneath whitish, having a few ashy-brown striæ on the breast, and one along each side of the throat : tail darker towards the end, and slightly edged at tip with whitish, which forms a terminal spot upon the inner web of its outermost feathers : bill mingled whitish and dusky-corneous ; and feet lead-coloured. Inhabits the Himalaya, and central and Southern India.

Vol. XIII, p. 363. *Sturnia*, No. 3, has just been figured by Mr. Jerdon with the specific name *Blythii*. *Calornis cantor*.

P. 366. *Calornis cantor*, &c. The *Turdus strigatus*, Horsfield, is founded on the second state of plumage referred to ; so that this species is both *T. chalybeus* and *T. strigatus*, Horsfield. *Strickland*.

P. 373. *Sphenura striata*. I have just obtained the nest and eggs of this species, the latter blue as in the *Malacocerci*, and the vest also nearly accords with that of a *Malacocercus*.

P. 376. *Prinia Franklinii*. Add, as a synonym, *Sylvia longicaudata*, Tickell, J. A. S. II, 576.

\* The preserved skin sent on loan by Mr. Jerdon, measures but three inches and a half, which is the length given by Burton.





*Proceedings of the Asiatic Society.*—MAY, 1844.

(Wednesday Evening, the 1st May, 1844.)

The stated Monthly Meeting was held on Wednesday evening, the 1st instant, at half-past eight P. M. The Honorable the President in the chair.

The following list of books presented and purchased was read.

*Books received for the Meeting of the Asiatic Society, on the 1st of May, 1844.*

Report on Public Instruction in the Bengal Presidency, 1842-43.—Presented by Dr. Mouat.

The Oriental Christian Spectator, April 1844, vol. v, second series, No. 4.—By the Editor, Bombay.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the month of March.

Nalodaya.—By the Rev. J. Yates.

Papillons Exotiques, par F. P. Cramer, Amsterdam, 1779-1791, 5 vols. 4to.—Presented by Capt. W. Wroughton.

Natural History of Uncommon Birds, by G. Edwards, London, 1743-1754, 7 vols. 4to.—Presented by Capt. Wroughton.

Read the following letters from Messrs. W. and H. Allen and Co., the Society's London Agents.

HENRY TORRENS, ESQ. &c. &c. &c. *V. P. Asiatic Society of Calcutta.*

SIR,—We have the honor to acknowledge the receipt of your favors, dated 5th September and 13th December 1843, and also the copy of a letter addressed by you to Mr. John Murray. As we learn from you that the Journal from No. 133 is now vested in the Society, we think it advisable to annex you our account, embracing No. 132, which is £9: 19: 2 in favor of the Society. We have received from Mr. Murray £21: 9, which is placed to the credit of the Society. The stock of Books in the hands of Mr. Murray will be forwarded to you in a day or two.

The quantity of Books in the Warehouse of Mr. Murray, belonging to the Society, is very heavy, and you must be aware that we can never dispose of them here. Of some volumes, Mr. Murray will hand us more than 200 copies. We would recommend something being done with them, and we think they might be returned and disposed of in India with more advantage than they would be here, where they could only be sold as waste paper. Every year they are kept, they will be of less value to the Society. If they were advertised, we fear the sales would not pay the expences of so doing. If you will favor us with the wishes of the Society, at an early date, we shall be much obliged to you.

We are, Sir,

London, Feb. 29, 1844.

Your faithful Servants,

WM. H. ALLEN AND CO.

HENRY TORRENS, ESQ. *for Journal of the Asiatic Society of Bengal, in Account with W. H. ALLEN AND Co.* . . . . . Cr.

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London, February 28, 1844

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1	Copy each	No. 129 to 132	to Professor Wilson.
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H. TORRENS, ESQ.

DEAR SIR,—You may remember about two years ago, the Asiatic Society ordered Arrowsmith's Map of India from us, which was shipped to the Society in January 1842. The order from the Society for it is worded thus: "As soon as possible send to my address, as Secretary to the Asiatic Society, a copy of the latest Map of India, by Arrowsmith, of the largest size, on spring rollers, &c. for the use of the Society."

The order was strictly complied with in the selection of Arrowsmith's largest and latest Map; on its arrival the Society write,

"The letter advising the dispatch of Arrowsmith's Map has come to hand, but I beg to observe, that although my letter of the 15th May 1841, commissioned the *latest published* Map by Arrowsmith, yet you are aware that since the Map was compiled by him, *Arrowsmith*, more countries have been acquired and more full and complete Maps of India have been published under the auspices of the East India Company; and if the Society is not much mistaken, these publications have been undertaken by yourselves. Under these circumstances the Society expected, that notwithstanding Arrowsmith's Map was *specially* ordered, you would have exercised your judgment to send the latest and most complete Map of India instead of the one sent by you. The Map from its incompleteness is quite useless to the Society, and as such, it is, I regret to say, rejected, and made over to Messrs. Thacker and Co., to whom you will please give instructions for its disposal."

The Society again write on the 5th September, 1843:—

"Although the Society is not disposed at present to disturb the account current closed to the 30th June 1843, yet I am desired to say, that it is susceptible of adjustment with reference to my letter of February, as regards the cost and charges of Arrowsmith's Map; viz. £18 10s, which has been rejected by the Society as incomplete. You have already been advised that the Map has already been made over to Messrs. Thacker and Co. for disposal on your account."

On perusal of the foregoing it will be clear to you, that we had no alternative, but to forward the Society Arrowsmith's Map of India, which is *double the size* of ours. It would have been much more to our advantage to have disposed of our own publication instead of purchasing Arrowsmith's; but it would not have been either honest to the Society or to Arrowsmith, had we done so. We concluded that Arrowsmith's Map was well known to the Society, and for aught we knew, the Society might have already possessed our Map, which is always procurable in Calcutta. Under these circumstances it is quite clear, that it is no fault of ours that the Map ordered to the Society has proved of little use. We conclude the Map to be still in the hands of Messrs. Thacker and Co. For the last year we have had no connection with them, and it is not our

intention to renew it. We trouble you with this letter *privately*, and shall be obliged by your explaining the matter to the Society. It would not be reasonable to suppose we can bear the loss of £18 10s, when *no error* had been committed by us. The agency of the Society is, as you must be aware, at times very troublesome, and for which we never make any charge, but on the contrary often study to promote its interest at our own expense. This we shall continue to do, and consider the interests of the Society as identical with our own. Our Map of India has just been corrected, at a great outlay, to the present date, and if the Society desire to possess it, it will cost about £10 10s. including shipping expenses to Calcutta.

We are, dear Sir,

London, February 29, 1844.

Your faithful Servants,

W. H. ALLEN AND CO.

Read the following letter from Government, accompanying the work to which it refers :—

No. 550 of 1844.

*From W. EDWARDS, ESQ. Under-Secretary to the Government of India, to*

*H. TORRENS, ESQ. Vice President and Secretary to the Asiatic Society.*

Foreign Department.

SIR,—I am directed by the Governor General in Council to transmit to you, for such notice as the Society may deem it deserving of, the accompanying Grammar of the Cashmeree Language, by Major R. Leech, C. B.

I have the honor to be, Sir,

Your most obedient Servant,

Fort William, the 6th April, 1844.

W. EDWARDS,

*Under-Secretary to the Government of India.*

This Grammar was referred to the Editors of the Journal for publication.

Read the following letter from Dr. Griffith, Acting Superintendent H. C. Botanic Garden :—

MY DEAR SIR,—Dr. Martius, the learned writer on Brazil, and a high scientific character, is anxious, as Secretary to the Mathematico-Physical part of the Ratisbon Academy, to ascertain whether the Asiatic Society would be willing to enter on a system of interchange of publications and objects with that Academy, and if so, what are the publications, &c. the Society would wish to have, and of what it would be convenient to the Society to dispose.

I shall feel obliged if you can give me such information as will be sufficient to guide Dr. Martius, and hope that it will be such as will enable him to complete what he earnestly desires, a constant and liberal exchange with the Head Society of India.

I am, My dear Sir,

Your's truly,

*Botanic Gardens, April 20, 1844.*

W. GRIFFITH,

*Member, Royal Ratisbon Academy.*

Ordered, that a letter expressing the best thanks of the Society for the friendly overture of Dr. Martius, and the Society's desire to promote on its side the most friendly relations with the University of Ratisbon be sent.

Read the following letter from Captain Williams, 1st Assistant Commissioner of Arracan :—

DEAR SIR,—I have the pleasure to inform you, that I have forwarded to Kymkhroo for the purpose of being conveyed on the "*Amherst*" to you, an iron anchor stock, found on Chedooba, at the spot where the gold coin and javelin heads were discovered. I can obtain no information whatever from the Mugs about it, but it may throw some light towards the discovery of the country and age of the coins.

Your's very truly,

*Ramree, Arracan, March 27, 1844.*

D. WILLIAMS.

The Sub-Secretary submitted to the Meeting an impression taken from the iron bell from Ningpo, presented by Captain Warden, H. C. Steamer *Queen*, to the R. R. the Bishop for the Cathedral. It was proposed and approved of, that this should be first sent to China, for translation by Mr. M. Callery or Gutzlaff, in order to learn before proceeding farther, whether the inscription contained any thing of importance and worth the trouble of taking off.

Read the following letter from Dr. Roer, accompanying the valuable translation to which it refers, which was referred for publication to the Editors of the Journal.

MY DEAR TORRENS,—I send you the first four chapters of my Translation of Bhascara Acharya's work on Astronomy; this is about the fourth part of the whole, and sufficient, I think for one number of the Journal.

Your's sincerely,

*20th April, 1844.*

G. ROER.



Read letter from the Rev. W. Yates, addressed to the Honorable the President, with a copy of the "Nalodya," the able and very useful work to which it refers.

*The Honorable W. W. BIRD, Esq. President of the Asiatic Society.*

DEAR SIR,—If it is not giving you too much trouble, will you allow me to beg of you the favour of presenting to the Asiatic Society at their next Meeting the accompanying work. It is so much in keeping with the designs of Sir W. Jones, the noble founder of the Institution, that I venture to entertain the hope, that it will not be unacceptable.

I am, your's very truly,  
W. YATES.

*April 12, 1844.*

Read the following letter from J. Muir, Esq. C. S. :—

*H. W. TORRENS, Esq. Secretary to the Asiatic Society of Bengal.*

MY DEAR SIR,—I am sorry to find that the untoward circumstances mentioned in your letter, (received some time ago in Calcutta,) have for the present put a stop to the measures in progress for the publication of the *Sārira Vidyā*. Could you kindly give me an idea what it would cost to print and edit the MS. in the manner formerly proposed, either with or without the plates, which were to be had out from England. In the mean time, I should like if possible to have a MS. copy of the work, if that can be allowed me, in the Nagree character, and if you would be good enough to order it to be put in hand, I will remit the cost of copying.

I remain, My dear Sir,  
Your's faithfully,

*Agra, April 9, 1844.*

J. MUIR,  
*Member of the Asiatic Society of Bengal.*

Ordered, that a statement be drawn out and submitted in the first instance to the Committee of Papers.

REPORT OF THE CURATOR MUSEUM OF ECONOMIC GEOLOGY, AND GEOLOGICAL AND MINERALOGICAL DEPARTMENTS, FOR THE MONTH OF APRIL, 1844.

From Major Crommelin, B. E. through Messrs. Colvin and Co. we have to acknowledge a very handsome donation of upwards of 200 specimens of Rocks and Minerals, Scottish, English, (Cumberland and Westmorland,) and Foreign, with about a dozen specimens of organic remains, amongst which last I may note as a valuable addition to our cabinets, portions of the jaw with teeth, of an Ichthyosaurus, and a beautiful slab with remains of the Briarean Pentacrinite. Of the rocks and minerals, many are very great additions to our cabinets, and all would have been far more so had any numbers or labels remained to the rocks by which we could have referred them to the localities from which so many derive

their value. The minerals are of course easily recognised and re-numbered, but to identify the rocks, of which there is but a mere dealer's catalogue, is necessarily a work of much longer time, as many books and descriptions must be referred to, and in the end, a few will be always uncertain. Nevertheless, the Society is under very great obligation to Major Crommelin for his liberal donation, and I trust that gentlemen who may, like him, have old dealer's collections, or even remnants of collections, will not be deterred, by their imperfect state and want of numbers or catalogues, from sending them. We shall always be able to turn them to some account.

I have to record to-day also, another instance of the attention of the Government of India, and the Honorable Court of Directors, to our wishes as to a Map of the country comprised in Dr. Voysey's report, published in vol. II. of the Journal, where at p. 304, the sections but not the Map are given. The following is the letter from Government accompanying this Map :—

No. 90.

*From T. R. DAVIDSON, Esq., Officiating Secretary to the Government of India,  
to H. TORRENS, Esq., Secretary to the Asiatic Society.*

Home Department.

SIR,—With reference to your letter dated the 27th of August 1842, I am directed by the Honorable the President in Council to transmit to you the accompanying Copy, Para. 30 of a Despatch from the Honorable Court of Directors No. 17 of 1843, dated the 1st November, together with Dr. Voysey's Geological Map of the Country between the Godavery and the Kistna therein alluded to, for the use of the Museum of Economic Geology.

I am, Sir,

Your obedient servant,

Council Chamber, the 27th January, 1844.

T. R. DAVIDSON,

*Offg. Secy. to the Govt. of India.*

*Extract from a Despatch from the Honorable the Court of Directors in the Public  
Department, dated the 1st November 1843, No. 17.*

*Answer to Secretary's Letter, dated 12th October, No. 20 of 1842.*

30. There is only one Geological Map connected with Dr. Voysey's report, which includes part of the country between the Godavery and the Kistna. A copy of this Map is forwarded as a number in the packet.

Requesting to be furnished with a copy of Dr. Voysey's Geological Map for the Museum of Economic Geology.

(True Extract.)

T. R. DAVIDSON,

*Offg. Secy. to the Govt. of India.*

This would have been brought forward at the same time as Major Herbert's Map, but it came in late, and I detained it from that report to refer to the Journal, and (for which I have to apologise) forgot it at the next Meeting.

I have the pleasure to exhibit a very well drawn and accurate copy of Captain Herbert's Map from the press of Messrs. D'Rozario and Co., which is now in progress of colouring, and will be distributed with a number of the Journal; a large margin being left to take it out and put in again to the volume to which it belongs. I have farther

preserved some blank copies of this valuable little Map for the use of the Geological Department of the Museum, and I hope by distributing some to our zealous friends to obtain from them some notes and fillings up, to aid our knowledge of that interesting part of India.

From Mr. J. N. Martin, Executive Officer, Lower Assam, we have received through Colonel Garstin, Superintending Engineer, Lower Provinces, two chests containing specimens of ancient earthen tiles, of rocks and soils, and of wood from that country.

Mr. Martin's Letter is as follows :—

No. 320.

*From Mr. J. N. MARTIN, Executive Officer, Lower Assam, to Colonel E. GARSTIN, Superintending Engineer, Lower Provinces.*

SIR,—With reference to your Circular No. 12 of the 4th August 1842, forwarding a printed letter and statement from the Curator Museum of Economic Geology, I have the honor to annex a list of specimens collected by me in this division, which I shall be obliged by your allowing me to put on board one of your boats for transmission to the presidency.

2. Specimen No. 1 was dug out of some old ruins which were being levelled at Gowhatti, in which No. 4, 5 and 6 were also found, and probably formed some part of a Temple. These fragments will suffice to shew the state of the arts in Assam in former days. I regret that these specimens are not more perfect; they are the only ones of the kind I have met with.

3. Specimens No. 7, 8, and 9 are from stones lying about Gowhatti, and which seem to have formed extensive buildings, (Temples,) which have long since disappeared, the remains of which are scattered over the station, and are constantly being dug up. Some of the stones are fine specimens of workmanship. The rock from which the stone seems to have been quarried is found at the base of the Hills about Gowhatti, laid bare by the Burrampootur and in rocks in the river.

4. Specimens No. 10 and 11 are from the ruins of an old brick Temple at Tezpoor. 12 and 13 are specimens of granite from the same place from stones wrought and unwrought, an immense number of which have been collected for the purpose of some extensive buildings, (probably Temples,) which from the appearance of the stones seem never to have been used in any building. The stones appear to have been quarried from rocks in the Burrampootur, and from the base of the Hills in the vicinity.

5. Specimen No. 16 is soil from Rannee Godown, said to be adapted for the cultivation of tea, and extends over a large tract of country. On my late visit to Gola Ghaut, 175 miles above Gowhatti and 200 above Rannee Godown, I was struck with the similarity of the soil on which an individual has commenced the cultivation of the tea plant. No. 17 is a specimen.

6. Specimen No. 18 is a brick dug out of the ruins of an old Temple, probably Mahomedan, at Gawalparah, and bears a Persian inscription. From its appearance it seems to have formed a step or floor, and is evidently of recent date compared with the ruins found in Assam.

7. Specimens No. 2, 3, 14 and 15 shew the superior quality of the bricks in former days, which are far superior to any thing we can make at the present time. The art of brick-making has long been lost to the Assamese, and it is only within a few years that it has been revived. The people in the mechanical arts have sadly degenerated, and they have very little or no inclination to follow the example of their forefathers in these pursuits.

I have the honor to be, Sir,

Your most obedient servant,

J. N. MARTIN,

*Executive Officer, Lower Assam.*

*List of Specimens for the Museum of Economic Geology.*

- |         |   |                  |
|---------|---|------------------|
| No. 1.— | Piece of a large Brick.                         | } From Gowhatti. |
| — 2.    | } Common Assamese Bricks.                       |                  |
| — 3.    |   |                  |
| — 4.    | } Fragments of Tiles.                           |                  |
| — 5.    |   |                  |
| — 6.    | Ditto of glazed Tile.                           |                  |
| — 7.    | } Specimens of Granite.                         |                  |
| — 8.    |   |                  |
| — 9.    |   |                  |
| — 10.   | } Bricks from the ruins of an old Temple.       |                  |
| — 11.   |   |                  |
| — 12.   | } Specimens of Granite, from Tezpore.           |                  |
| — 13.   |   |                  |
| — 14.   | } Bricks from Bishnath.                         |                  |
| — 15.   |   |                  |
| — 16.   | Tea soil from Rannee Godown.                    |                  |
| — 17.   | Ditto ditto Gola Ghaut.                         |                  |
| — 18.   | Brick from Gowlparah, with Persian inscription. |                  |

J. N. MARTIN,

*Executive Officer, Lower Assam.*

No. 3,585.

*To H. PIDDINGTON, Esq. Curator, Museum Economic Geology.*

SIR,—I have the honor to forward the enclosed Original Communications as noted

- |                                |   |
|--------------------------------|---|
| No. 320, dated 31st Jan. 1844. | on the Margin, from Mr. J. N. Martin, Executive Officer,                                  |
| No. 333, dated 12th Feb. 1844. | Lower Assam, which ought to have accompanied the specimens lately sent by him through me. |

I am Sir,

Your obedient servant,

Fort William, 10th April, 1844.

E. GARSTIN, LIEUT. COL.

*Superintending Engineer, Lower Provinces.*

*List of Specimens of Wood from Assam for the Museum Economic Geology.*

- 1.—Gheara.
- 2.—Larang.
- 3.—Willow Bha.
- 4.—Chumpa.
- 5.—Seeharoo.
- 6.—Naghusar.
- 7.—Saul.
- 8.—Chamn.

J. N. MARTIN,

*Executive Officer, Lower Assam.*

No. 333.

*From J. N. MARTIN, ESQ. Executive Officer, Lower Assam, to COL. GARSTIN,  
Superintending Engineer, Lower Provinces.*

SIR,—In continuation of my letter No. 320 of the 31st January last, I have the honor to annex a list of eight specimens of timber for the Museum of Economic Geology.

2. It was only within the last two or three days that I was informed by Major Jenkins, that such would be acceptable; I shall continue to make a further collection as opportunities offer.

I have the honor to be, Sir,

Your most obedient servant,

J. N. MARTIN,

*Executive Officer, Lower Assam.*

*Gowahatti, 12th February, 1844.*

For all the foregoing communications and presentations, the best thanks of the Society were voted.

---

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